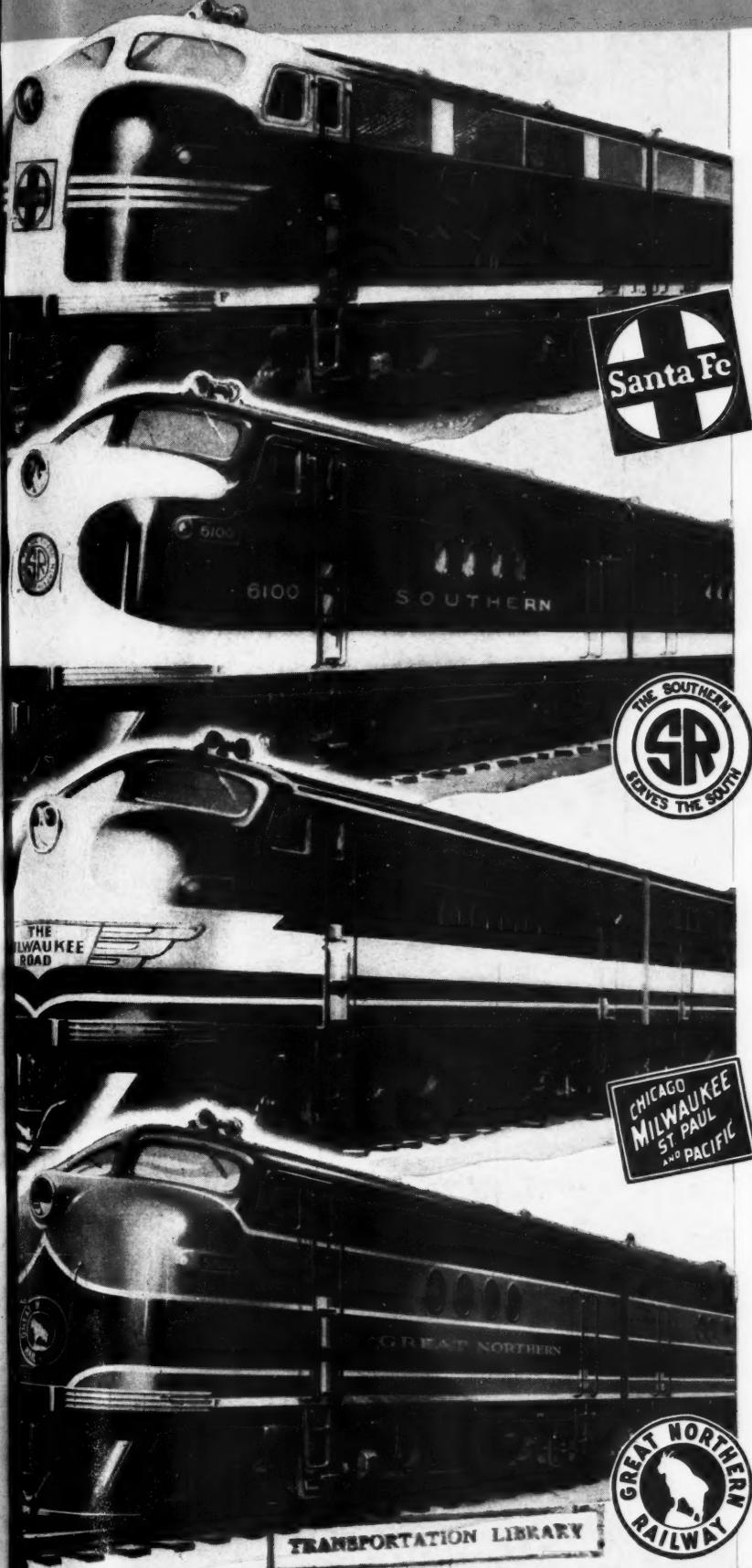


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AUGUST 16, 1941

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# Railway Age



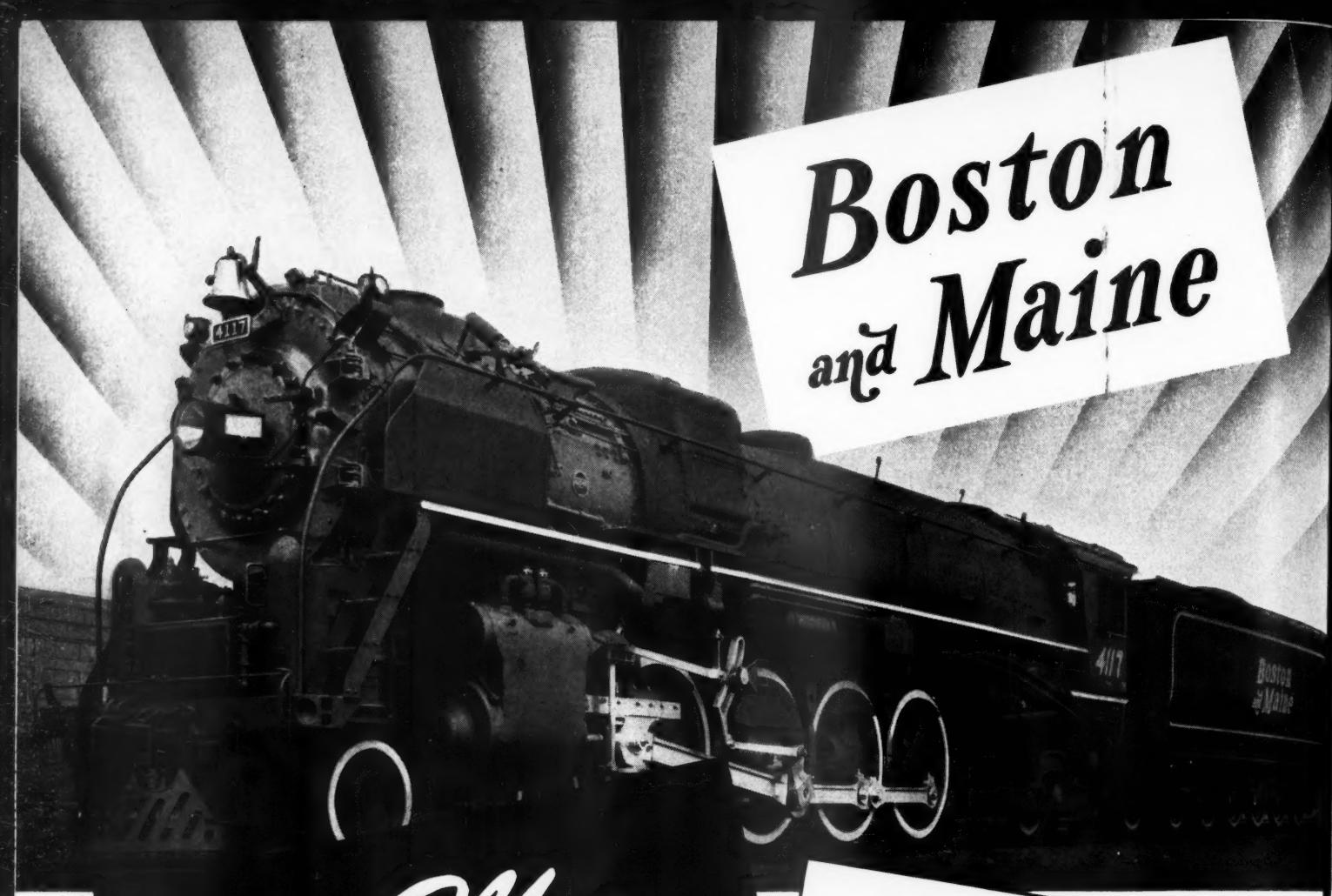
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On the Way

EMC Diesel Freight Locomotives  
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B.&M. Hangs Up Operating  
Records in 1940

"Besides taking in the highest freight revenues for any year since 1931, the Boston & Maine established four new all-time records in fundamental operating statistics during 1940, according to the annual report made available this week.

(1) Gross-ton-miles-per-train-hour reached 27,996, a figure 3 per cent higher than 1939's record and a gain of 27.3 per cent over 1930.

(2) Net-ton-miles-per-car-day reached 560, a gain of 48.1 per cent over 1930.

(3) Coal required to produce 1,000 gross-ton-miles in freight service reached a new low of 98 lb., an improvement of 10 per cent over 1930. If 1930's performance had been carried over into 1940, operating expenses in the latter year would have been higher by \$186,250.

(4) Average-miles-per-serviceable-locomotive-per-day in freight service reached 96.1 and in passenger service 124.7, both record figures."

From RAILWAY AGE, March 22, 1941



THE BALDWIN LOCOMOTIVE WORKS

Philadelphia

# Railway Age

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August 16, 1941

No. 7

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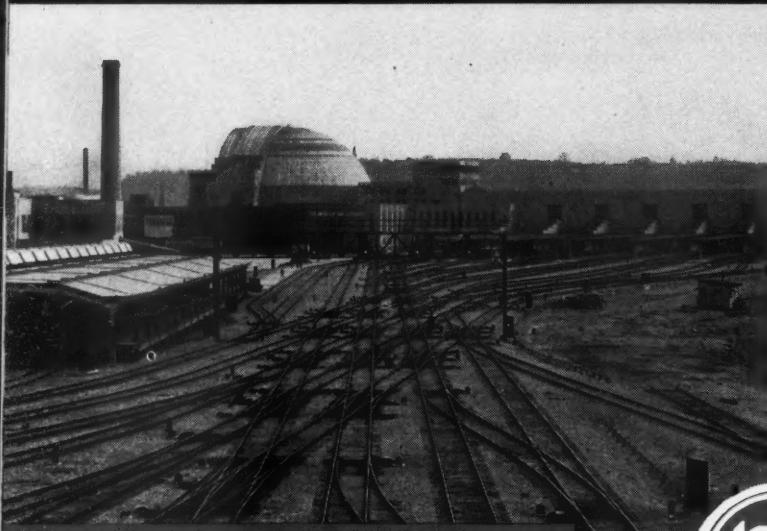
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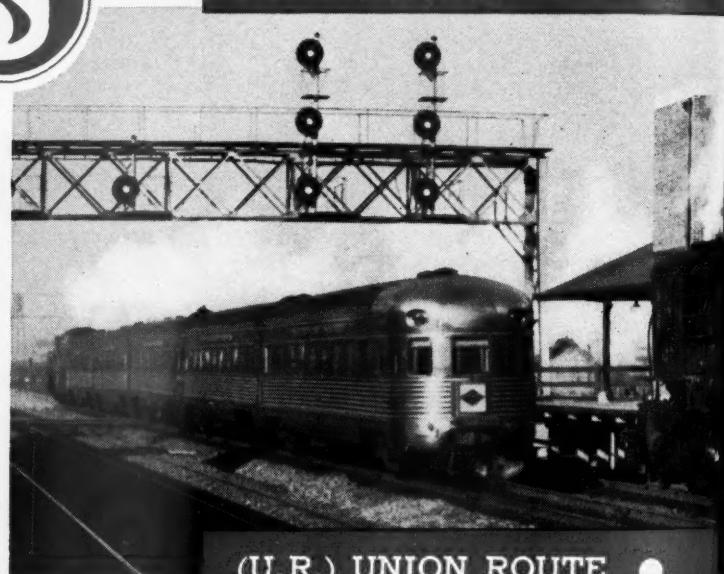
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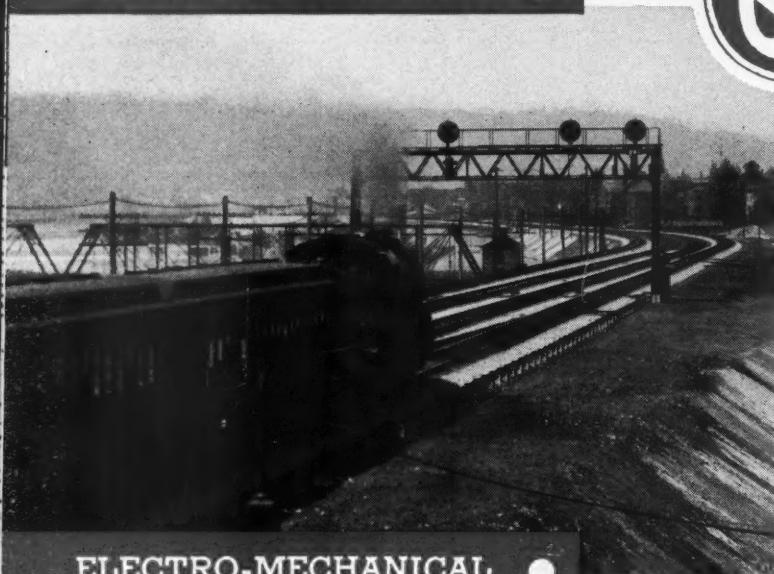
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# The Railways' Stockholders and Employees

Two widely differing views regarding the way in which the earnings of the railways which are available for division between their employees and their stockholders **should** be divided between them recently have been expressed by spokesmen of the labor unions and the railways.

David B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, said in a release to the press on June 23, "The security owner invariably is in a preferred position in coping with the uncertainties inherent in the industrial system. \* \* \* In practically all cases the income from securities constitutes only a part of his necessary living expenses. But the wage earner who loses his job or is furloughed cannot cash in on his dismissal notice. He cannot borrow on it in order to pay his rent, feed his family and clothe and educate his children. \* \* \* By the loss of his job, or by part-time employment, he is the first one to bear the brunt of lower revenues." In a radio address on August 3, Mr. Robertson said: "The American way was built and sustained, and can only be sustained, by sharing rising profits in the form of wages with those who help to make the profits possible. \* \* \* We question the right of invested capital to insist upon a full participation when we consider that labor is already inadequately paid. To permit such a thing would be to pay capital an undeserved amount at the direct expense of labor. \* \* \* After paying a fair and honest price for labor and necessary expenses, capital participates in what remains. \* \* \* We do not intend to pull railway management out of the hole by foregoing wage increases so that it can cover up its own shortcomings by paying off invested capital with a portion of labor's rightful share."

### Stockholders—"the Forgotten Men and Women"

In a radio address on the same evening, F. G. Gurley, chairman of the executive committee, Joint Carriers' Conference Committee, said, "Railroad profits now are much less and employee earnings higher than they were 12 or 15 years ago. Capital is required and will continue to be required. But capital, like labor, is entitled to its wages and is certainly entitled to more

than it has received during the past decade. \* \* \* Who owns the railroads? Over 800,000 men and women (stockholders) whose money is part of the required capital. They are just ordinary folks. They are good citizens, like railroad workers. In fact, many railroad workers are stockholders of American railroads. Stockholders really are the forgotten men and women. They have been forgotten for 10 years and are entitled to some recognition. In all fairness they should now participate in improved earnings. \* \* \* If these wage and other requests, aggregating 900 million dollars, had been effective in 1940, a modest net income would have been replaced by a net deficit of about 600 million dollars. \* \* \* Had the employees' requests been effective (during the first five months of 1941) the net deficit would have been about 225 million dollars."

### Why Are There Stockholders?

Whose enterprise and capital created the railroads? Whose enterprise and capital created any private industry? Those of the **stockholders**. In many or most instances railway stockholders borrowed money and invested it; in some instances they received public aid which, however, was trifling compared with their investment; but it was always the **enterprise and capital of the stockholders** of the railways, as of every industry, that created the industry. They always put their own capital into it; and they always assumed the indebtedness and risk incurred by the investment of borrowed capital.

Why did the stockholders thus use their enterprise and capital? To provide a service for the public? To provide employment for a few or a large number of persons? They did, and still do, provide a great service for the public; they did, and still do, provide employment for a great many persons; but never in a single instance did the stockholders of any corporation, railroad or otherwise, use their enterprise and capital **primarily** to provide public service or employment, or both. They always used them **primarily** to secure income for themselves. They knew that they would have to provide service and employment, and to deal with the public and their employees in accordance with

the laws of the land. But they also knew that these laws required that, under honest and efficient management of their properties, **they must be allowed to derive a fair return from their investment**; and they made their original investment, and continued to make additional investment in reliance on the **assurance of public, lawmakers and courts** that the laws of the land would always be such, and would always be so interpreted and applied that, while railway owners would have to treat the public and employees fairly,

Twenty Years' Division of Railway Earnings Between Employees and Stockholders

	The Employees' Share		The Stockholders' Share	
			Net income after fixed charges (000)	Net income per share of stock (000)
	Total compensation (000)	Average employee		
1921	\$2,765,218	\$1,666	\$350,540	\$3.94
1922	2,640,817	1,623	434,459	4.85
1923	3,004,072	1,617	632,118	6.95
1924	2,823,775	1,613	623,399	6.70
1925	2,860,600	1,640	771,053	8.19
1926	2,946,118	1,656	883,422	9.43
1927	2,910,183	1,677	741,924	7.78
1928	2,826,590	1,706	855,018	8.79
1929	2,896,566	1,744	977,230	9.92
1930	2,550,789	1,714	577,923	5.77
Ten-year average	2,822,672	1,666	684,709	7.23
1931	2,094,994	1,664	169,287	1.69
1932	1,512,816	1,466	-121,630	-1.21
1933	1,403,841	1,445	26,543	.26
1934	1,519,352	1,508	23,282	.23
1935	1,643,879	1,653	52,177	.53
1936	1,848,636	1,735	221,591	2.23
1937	1,985,447	1,781	146,351	1.49
1938	1,746,141	1,859	-87,468	-.89
1939	1,863,334	1,887	141,134	1.44
1940	1,964,331	1,913	243,300	2.48
Ten-year average	1,758,277	1,691	81,457	.825
Per cent decline in ten-year average	-37.7	+1.5	-88.1	-88.6

they would be allowed to receive a "fair return"—i.e., a return that would justify the investment already made, and the additional investment required to provide good and adequate service and good and adequate employment.

#### The "Divvy" Between Employees and Stockholders

Nobody questions that during the last twenty years the railways have performed for the public their duty of rendering it good and adequate service. Let us, then, survey statistics showing how during these years their employees and stockholders have fared. Mr. Robertson said, "The security owner invariably is in a preferred position in coping with the uncertainties inherent in the industrial system. \* \* \* We question the right of invested capital to insist upon a full participation when we consider that labor is already inadequately paid." Mr. Gurley said, "Stockholders really are the forgotten men and women. They have been forgotten for ten years and they are entitled to some recognition. In all fairness they should now participate in improved earnings." Which was right?

The statistics in the accompanying table show that during the last decade the total annual compensation of all railway employees averaged almost 38 per cent less than in the ten years ending with 1930. That was

bad for the employees. But these statistics also show that the total average annual net income (after fixed charges) of the railway industry during the last decade was 88 per cent less than in the preceding decade; and "net income" is all the income there is available for paying the stockholders. Therefore, employees as a whole suffered a relatively much smaller decline in their income from industry than did its stockholders—i.e., its owners. The statistics show some other things of importance. They show that the average annual compensation of the employees in the decade ending with 1930 was \$1,666 and in the decade ending with 1940 was \$1,691, an increase of 1½ per cent; while net income per share of stock in the ten years ending with 1930 averaged \$7.23 annually, while in the ten years ending with 1940 it averaged only 82½ cents annually—a decline of 89 per cent.

#### Everybody Benefits—But the Stockholders

So the public did get its good and adequate service; the employees, although suffering a large reduction in their **total compensation**, actually got an increase in their **average compensation**; while the stockholders, whose enterprise and capital created and kept in operation the industry that rendered the service to the public and accorded the employment, suffered a decline of **nine-tenths** in the average income earned on each share of their stock.

"The American way was built and sustained, and can only be sustained," said Mr. Robertson, "by sharing rising profits in the form of wages with those who helped to make the profits possible." We agree. It is also true that the American way was built and sustained, and can only be sustained, by dividing in an economically sound manner between the employees and owners of its industries, **both the declines and the increases** in its earnings—or "profits", if Mr. Robertson prefers that word. The stockholders of the railways bore during the last decade a relatively much larger share of the decline in earnings than did the employees. Obviously, therefore, economically to redress the balance the stockholders should share relatively much more largely than the employees in an increase of earnings. But the labor leaders say "no" to this proposition; while the employees suffered much less from the decline of earnings, they did suffer from it; and, therefore, say the labor leaders, they should benefit much more from an increase.

#### A New Idea About "Profit-Sharing"

The railways thus far in 1941 have been making net operating income at a rate of approximately 1 billion dollars a year—about the same as they averaged in the ten years ending with 1930. If they should continue to earn at this rate the amount of "net income" (after fixed charges) available for stockholders annually would become about 550 million dollars—much larger than in any of the last ten years, but much smaller than

in any of the years 1923-1930, inclusive. Therefore, on the plea that employees should be allowed to participate in the "profits" of the industry, the labor leaders come forward with demands for annual increases in costs of 900 million dollars. On the basis of results thus far in 1941, this would give the stockholders—i.e., the owners—no net income at all, but a net loss of about 400 million dollars. The method of "dividing profits" between employees and stockholders of an industry by giving the stockholders a loss of 400 million dollars has, at least as a "profit-sharing" scheme, the merit of novelty.

Mr. Gurley was quite right. The stockholders certainly have been the forgotten men and women of the railroad industry for a decade. We hope they will continue to be forgotten only by the labor leaders. We believe in private enterprise. We don't know how any industry can continue as a private enterprise without stockholders, because it will always be true in future, as it always has been in the past, that the enterprise and capital of stockholders will be required to make and keep any industry a private enterprise. And no industry can hope to continue having stockholders if it is so managed and regulated as to make its stock worthless.

## Getting Specific on Competitive Rates

In this space was recently discussed, with a considerable degree of approval, the approach to the railroad rate situation advocated by C. G. Jensen, of the staff of the Interstate Commerce Commission in his monograph on the subject.

While his overall summary strikes your reporter as sound—it does not give appropriate weight to one of the most important considerations, namely, competition from other forms of transportation. Possibly, by reading between the lines, it may be inferred that the author purposely refrained from making concrete suggestions in this sector, and left it to traffic executives to set the yardstick to meet the changed conditions.

In the following the attempt is made roughly to suggest a maximum "ceiling" and a minimum "floor" for class rates to reflect the railroads' superior economy, using Official Territory as the base territory.

Miles	L. C. L. Bases		Carload Box Car Bases	
	Maximum Station-Classes 1 to 3	Minimum Station Lower than 3rd Class	Maximum for 20-ton loadings	Maximum for 30-ton loadings
(In cents per hundred pounds)				
10	25	18	8	7
90	35	25	9	7
100	35	25	10	8
200	45	32	15	12
300	55	39	20	16
400	65	46	25	20
500	75	53	30	25
600	85	60	35	30
700	95	67	40	35
800	105	74	45	40
900	115	81	50	45
1000	125	88	55	50
1100	135	95	60	55
1200	145	102	65	60
1300	155	109	70	65
1400	165	116	75	70
1500	175	123	80	75

These suggested scales are intended only as base rates to apply on commodities loading 20 lb. or more per cubic foot. The rates on lighter-loading commodities should be designed to reflect substantially the same revenue per cubic foot, or car-mile.

The rates in New England, Western Trunk Line, Kentucky, Tennessee, Southern Virginia and Northern North Carolina and between that territory and Official Territory should not exceed the base scale for each 100 miles or fraction thereof transported in this border territory by more than

10 mills per hundred lb. on l. c. l. traffic and 5 mills on carload traffic. The rates in territory beyond border territory should not exceed the rates in border territory for each 100 miles or fraction thereof transported in the outlying territory by more than 10 mills for l. c. l. and 5 mills for carload.

All of these rates are for station-to-station service and an appropriate charge should be added for pick-up and delivery of l. c. l., dependent upon the prevailing local costs in each instance. The results could then be published as total rates.

A discount of 2 cents per 100 lb. might be allowed on l. c. l. quantity shipments of 1,000 to 3,000 lb.; 4 cents on 3,000 to 8,000 lb.; 7 cents on 8,000 to 15,000 lb., and 9 cents on shipments of 15,000 lb. and over. Minimum charge per 100 lb., for l. c. l., 11 cents; per shipment, 75 cents, but not less than the 100-lb. rate.

If the above-suggested base rates are lower than necessary to control the business, they could be adjusted by increasing the progression uniformly for each 100-mile block. There is no point in adjusting rates downward unless they will procure sufficient additional business to justify the reduction.

A well advised traffic executive recently wrote us:

"A recent speaker at the New York Traffic Club did the whole story in one sentence when he said: 'In gauging the effect of rate changes, I believe the short-time viewpoint of the possible loss in revenues must be subordinated to the long-term viewpoint.'

"In other words, he suggests that we go through a period of radical reductions and get the traffic, and let costs settle where they may. If we get the volume first, the costs will take care of themselves.

"Perhaps this puts scientific rate making in the background for too long a period. Undoubtedly it would cause us to carry many shipments, for a time, below the cost of transportation production. However, if the whole picture is good we should not be bothered with the details during the temporary period of experimentation.

"But will 10,000 rate men and the Interstate Commerce Commission be able to see that the solution of this problem is as simple as this?"

The above suggestion is not intended as an exact formula. It is meant only to reflect something near the floor and ceiling of truck competition, and what the railroads could profitably do to regain the business they have lost to the trucks.



Future Travelers Inspect the Delta Eagle

## Delta Eagle Blazes New Trails

Missouri Pacific three-car streamliner gives through service in territory previously without it

**I**N its run of 259 miles between Memphis, Tenn., and Tallulah, La., the Delta Eagle of the Missouri Pacific serves an area along the west bank of the Mississippi river that was not only without streamlined service hitherto, but that was also without through service of any kind by either rail or bus. Although this three-car streamliner began service as recently as May 11, 1941, it has already ceased to be an experiment; the traffic returns have proclaimed it to be a success.

One of the features that makes the new service interesting from a traffic standpoint is the territory served. Between Memphis and Helena, 76 miles, the land is largely given over to cotton plantations, the area is fairly thickly populated and the highways, while not up to metropolitan standards, are at least all-weather roads. The principal communities are Marianna, a county seat town of 5,000 population, and Helena, a river city of 8,500 population with a large hardwood lumber industry.

South of Helena, a secondary hard-surfaced highway parallels the railway as far as Snow Lake, 52 miles, and the population is considerably less dense. South of Snow Lake, the Delta Eagle traverses the delta country of the White and Arkansas rivers, a swampy and inaccessible region, containing a large area without any roads or towns whatever. McGehee, 39 miles south of Snow Lake, is an important railway junction point of about 4,000 population, and between that point and the southern terminus of the run at Tallulah, La., 91 miles, the railway is paralleled by a hard-surfaced trunk highway. Tallulah is 22 miles west of Vicksburg, Miss., and has

a population of about 3,500. The principal communities served in the area between McGehee and Tallulah are Lake Village, Eudora and Lake Providence.

Under a permit recently granted by the I. C. C., the Missouri Pacific, through its subsidiary corporation, the Missouri Pacific Transportation Company, now operates over the new Mississippi River bridge near Lake Village, to Greenville, Miss. This arrangement affords ready access to the Delta Eagle by the citizens of Greenville, population 15,000, on the east bank of the river. By leaving Greenville at 7 a. m. in air-conditioned, streamlined motor coaches, passengers make immediate connection at Lake Village with the Delta Eagle for Memphis. Similar connecting service is made in the return direction, permitting travelers to arrive in Greenville at 10:25 p. m. Since its inauguration on July 1, this combination bus-train service has met with a ready response from the people of Greenville. This bus service, which also extends to Dermott and McGehee, opens up an entirely new travel field for them because it enables them to transfer at Dermott to Missouri Pacific trains to and from Monroe, Alexandria, New Orleans, Pine Bluff, Little Rock and St. Louis.

### Pleasing the Public

It will be seen that the new streamliner operates through a relatively thin traffic territory. For parts of its run, it has bus competition, including that of the railway's subsidiary, the Missouri Pacific Transportation

Company. In general, its success in both head-end business and passenger revenue provides an interesting example of what such a train can do in thin traffic territory. The benefit that accrues from a good-will standpoint cannot, of course, be measured, but comments heard from prominent business men along the route during the exhibition tour of the train left no doubt that its public relations benefits are very great.

From April 30 through May 10, the new streamliner made six trips into Memphis, carrying good-will tourists from towns along the route, and the train was also on display five days. In most of the towns and villages the entire population turned out to inspect the new train. A peculiar situation from a traffic standpoint developed in the first few days. Negroes comprise a large percentage of the population in the territory served, and, as their

trains. Leaving Tallulah and the other towns served in Louisiana and Arkansas, the Delta Eagle arrives in Memphis at 12:35 p. m. It does not depart on its southbound trip until 4:30 p. m., and arrives back in Tallulah at 10:55 p. m. Thus residents of the 33 towns served enroute can leave home in the morning, spend four hours in Memphis, and return home the same evening. This applies as far south as Tallulah, and from that point includes a round trip on the Eagle of more than 500 miles. It is of particular benefit to citizens of Helena, who, now, instead of being required to make a somewhat circuitous round trip to Memphis of 166 miles, over adequate but definitely second-rate highways, may now make the train trip of 150 miles, leaving Helena at 10:55 a. m., and returning at 6:11 p. m. after spending four hours at Memphis.

The Delta Eagle is also tied into through schedules conveniently. On the northbound trip, the M. P. train from New Orleans, Alexandria and Monroe makes close connections with the Eagle at McGehee, and gives connections to Eagle passengers for Pine Bluff, Little Rock and other points. At Memphis, connections are made with many trains for the north and east. On the southbound trip, in addition to the connections at Memphis, the Eagle exchanges passengers with a southbound train from Little Rock to New Orleans at McGehee.

#### A Comfortable Train

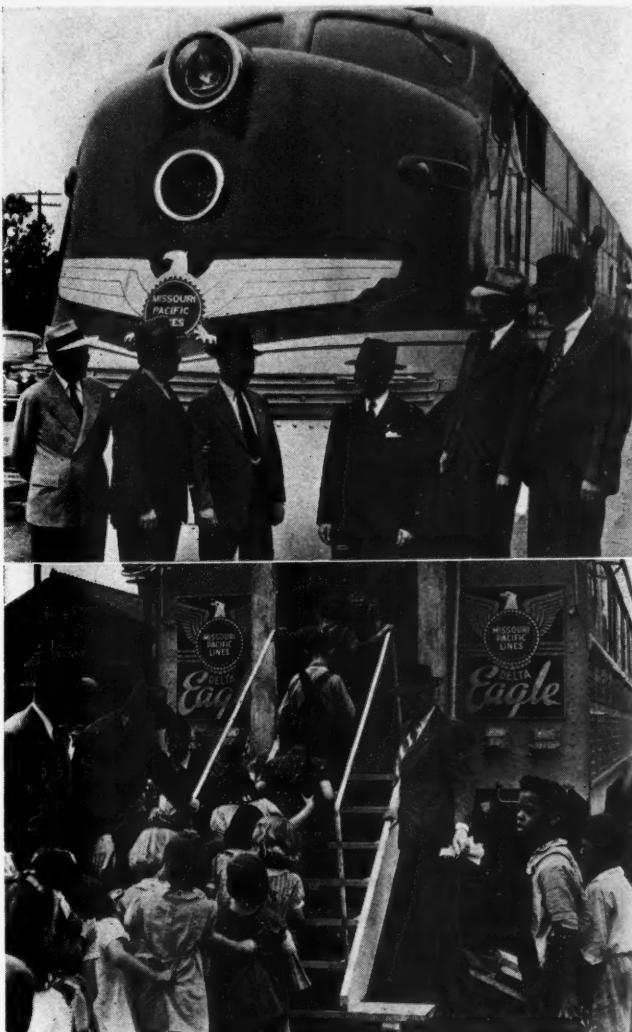
The Delta Eagle locomotive is a 1,000-hp. Diesel-electric unit, built by the Electro-Motive Corporation. It was delivered on September 5, 1940, and was used in regular service between Memphis and Wynne until the new train was established. In addition to the power unit, it contains a 19½-ft. baggage room. The locomotive is so designed as to permit its conversion into a 2,000-hp. unit if the occasion should arise.

The two air-conditioned coaches were designed specifically for the purpose they serve and were built by the St. Louis Car Company. The two units were built of low-carbon, high-tensile steel, and the decorative design, both exterior and interior, is similar to that in the St. Louis-Omaha Eagle of the Missouri Pacific, described in the *Railway Age* of February 24, page 353.

The cars have an inside length of 78 ft. 15/8 in. A 15-ft. mail compartment occupies the front end of the forward coach. This coach, for the accommodation of colored passengers, has a seating capacity of 60, with rest rooms for men and women. The rear coach seats 48 passengers and has two attractive and commodious lounge rooms.

The lunch counter grill is situated in the forward end of the rear car. Two tables, seating four each and three stools at the counter are available for passengers, as well as tray service to individual seats. Despite the small size of the cooking and serving facilities, they are so arranged that anything from sandwiches to steak dinners are served.

BRITISH LOCOMOTIVE MANUFACTURERS are continuing to fill orders from foreign countries. During the first three months of this year, 27 locomotives were shipped to Turkey, Egypt, Iraq, South Africa and the Straits Settlements. Shipments are continuing despite war hazards in the Mediterranean. Further deliveries, for example, have been made to Turkey since the end of the first quarter, making a total of 22 locomotives to that country since the first of the year. In cases where new locomotives cannot be supplied, Britain is sending boilers for re-equipping existing engines. During the first quarter a total of 38 boilers were shipped to India, South Africa, Peru and Uruguay.



The New Train Attracted Much Attention

race is notably fond of riding trains, a good patronage was expected from them. For some days, however, the patronage of the car reserved for colored people was disappointingly small, until it was discovered that the idea was prevalent among the negroes that they were not permitted to ride a train "so grand and shiny." After this idea was dispelled, the colored patronage became eminently satisfactory.

The schedules of the train have been arranged to suit the convenience of the local towns as much as possible, and also with regard to connections with other M. P.

## Mediation Board Takes Over Wage Controversy

THE wage and rules disputes which became deadlocked on August 5 and July 30 respectively, are now in the hands of the National Mediation Board. The board offered its services on August 11, six days after the unions started to take a strike vote because the railroads refused to grant increases in pay, and began conferences with representatives of the railroads and the brotherhoods at the Drake Hotel, Chicago, on August 14.

In accordance with a schedule set up by the board, mediation was started at 10 a. m. when it conferred with representatives of the five transportation brotherhoods on their demands for a 30 per cent wage increase and the carriers' proposal to change rules for this group of employees. At 1 p. m. the board met with representatives of the 14 non-operating brotherhoods to discuss their demand for pay increases and the railroads' proposal to change working rules and at 3 p. m. it met with representatives of the railroads. It is expected that this schedule of meetings, which are not open to the public, will prevail throughout the mediation proceedings.

The three members of the National Mediation Board who are participating in the conferences are David J. Lewis, chairman, George A. Cook and Otto S. Beyer. The youngest from the point of service is Mr. Lewis. He was born in Osceola, Pa., on May 1, 1869. From the age of 9 to the age of 23 he worked in a coal mine. He studied law and Latin and in 1892 was admitted to the bar and set up practice at Cumberland, Md. From 1902 to 1904 he was a member of the Maryland senate and from 1911 to 1917 he represented the sixth Maryland district in the sixty-second, sixty-third and sixty-fourth Congresses. He was defeated for U. S. Senator in 1916 and during the following eight years was a member of the U. S. Tariff Commission. On November 4, 1930, he was elected a member of the seventy-second Congress and subsequently was re-elected to the seventy-third, seventy-fourth and seventy-fifth Congresses. In 1938 he was defeated for U. S. Senator and on February 1, 1940 was appointed a member of the National Mediation Board. He was made chairman on July 1, 1941.

Mr. Cook was born at Bloomington, Ill., on May 5, 1889, and served as clerk, timekeeper and chief timekeeper on the Alton from 1905 to 1917 and as traveling auditor on the Chicago Great Western from 1917 to 1920. From 1920 to 1926 he served as wage schedule expert-examiner on the U. S. Railroad Labor Board and from 1926 to 1934 was mediator-secretary on the U. S. Board of Mediation. He was appointed secretary of the National Mediation Board in 1934 and held this position until 1938 when he became a member.

Mr. Beyer was born at Woodridge, N. J., on September 18, 1886, and graduated from Stevens Institute of Technology in 1907, after which he pursued graduate work at the universities of New York and Pennsylvania. During the four years from 1909 to 1912 inclusive, he was employed by the Erie in its motive power department and from 1912 to 1916 by the Chicago, Rock Island & Pacific in its shops. Later he served in the Army and in 1920 opened an office as consulting engineer to serve organizations of labor and railroads in the development of labor-management co-operation. In 1933 he was appointed by the Federal Co-ordinator of Transportation to assume direction of all labor activities in connection with the administration of the Emergency Railroad Transportation Act. In November, 1935, he was appointed a

member of the National Mediation Board and was chairman from December, 1937, to July, 1938.

Dispute over the average earnings of railroad employees was clarified on August 10, when the Chicago, Burlington & Quincy made public figures as to the earnings of certain of its employees. In the dispute which arose during the negotiations, the railroads contended that the average wage of all railway employees, using the middle-of-the-month count, was \$1,791 in 1939 and \$1,821 in 1940. Labor leaders contended that national retirement board figures show an average of \$1,324 for 1939. The Burlington records disclose that its freight engineers received an average of \$4,100 in 1940, its passenger engineers \$3,679, its local and way freight conductors \$3,580 and its road passenger conductors \$3,443. The 28 chief train dispatchers on the road received an average of \$4,167 the 78 train dispatchers, an average of \$3,656; the 83 yardmasters, an average of \$3,647; and three assistant yardmasters, an average of \$3,390.

On each daily run of the Denver Zephyr, the Burlington pays seven engineers \$81.04 for the 19 hr. 42 min. involved in a trip or an average of \$4.114 per hour, the firemen-helpers group an average of \$3.219 an hour, the five conductors \$3.016 and the ten brakemen an average of \$2.178 per hour. Time on duty for the Denver Zephyr crews ranges from 2 hr. to 4 hr. 10 min. per trip for engine crews and from 2 hr. 2 min. to 5 hr. 9 min. for train crews. The average monthly earnings of the men on this run are: engineers, \$350; firemen, \$275; conductors, \$320; and brakemen, \$265.

Furthermore, even these average earnings do not present an accurate picture because many of the transportation employees are limited by their unions as to the amount of work they may perform in a month. If they were permitted to work full time their wages, in some instances would exceed \$500 a month.

Average yearly compensation in 1940 for a representative group of Burlington workers was as follows:

Road passenger conductors	\$3,443
Assistant passenger conductors	2,561
Road freight conductors (through)	2,650
Road freight conductors (local and way)	3,580
Road passenger baggagemen	2,610
Road passenger brakemen and flagmen	2,565
Road freight brakemen and flagmen (through)	1,687
Road freight brakemen and flagmen (local and way)	2,733
Road passenger engineers	3,679
Road freight engineers (local and way)	4,100
Clerks and clerical specialists	2,112
Clerks	1,694
Stenographers	1,532
Ticket agents	2,355
Messengers, office boys	752
Gang or section foremen	1,695
Section men	996
Signalmen	2,160

\* \* \*



This Greenhouse at Moncton, N. B., Supplies Stations, Shops, Etc., of the Atlantic Region, Canadian National. With Flowers and Shrubbery

# High-Capacity Steam Passenger Locomotives\*

A record of continuous progress in evolution of six-coupled type through research and engineering

By P. W. Kiefer,

Chief Engineer Motive Power and Rolling Stock, New York Central System

**I**N 1904, when the Consolidation, Ten-Wheeler, Atlantic, and Prairie types were still the conventional freight and passenger locomotives in common use for heavy duty on the New York Central System, the first of a series of Pacifics, class K-80, was introduced on the Michigan Central. During the following year, passenger locomotives of the same type were placed in service on the Boston & Albany and on the C. C. C. & St. L. In 1907, the New York Central and the Lake Shore & Michigan Southern, now New York Central Lines West, received modifications of this type in the form of somewhat larger locomotives, designed as class K-2.

These engines successfully handled the work assigned to them and succeeding lots of the same type were installed until 1911, when a somewhat heavier and more powerful Pacific type was produced. This design is known as the class K-3, a considerable number of which are still in active service.

## Continuing Demand for Increased Power

Shortly after the introduction of the last of the K-3 class, it became evident that a further substantial increase in power was required and an attempt was made to meet this demand by a yet larger Pacific, having 25-in. by 28-in. cylinders instead of 23½-in. by 26-in., and with firebox and boiler capacity increased proportionately. With 79-in. driving wheels and a working boiler pressure of 200 lb. per sq. in., these locomotives developed a rated main-engine tractive force of 37,650 lb. which, by the use of a booster, was increased to 47,350 lb. This design was designated as Class K-5, and, in view of its increased size, hand firing was no longer practicable for capacity operation, so mechanical stokers were installed.

Fig. 1 shows the drawbar pull and drawbar horsepower versus speed for each of these distinct designs. The curves are typical of actual performance on the road under regular operation with locomotives in good condition.

The K-5 class, built in 1925 and 1926, was supplied with a tender carrying 15,000 gal. of water on two six-wheel trucks, which marked the introduction of the large-capacity tender for system passenger operation, the progressive elimination of service stops, and the extension of locomotive runs.

A survey undertaken in 1926 of the facts and conditions as related to the necessity for a further increase in the power of main-line passenger locomotives, to-

gether with consideration of probable future needs, led quickly to the definite conclusion that a unit of an entirely new design and type must be developed.

## A New Type Locomotive

The basic problem presented was to create a design of locomotive having the following characteristics, as compared with the Pacific types heretofore used:

- 1—Somewhat greater starting tractive force with increased horsepower capacity and maximum output at much higher speed.
- 2—Boiler of ample sustained capacity to satisfy the cylinder requirements for maximum power development, under severe weather and other conditions.
- 3—Weight distribution, wheel loads, and counterbalance to

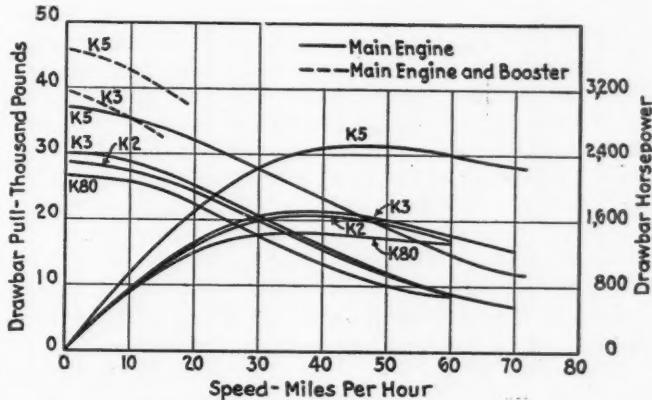


Fig. 1—Curves Showing Drawbar Pull and Horsepower Vs. Speed for Class K Pacific Type Locomotives

be such that impact forces and rail stresses could be confined to lower limits than heretofore observed, thus contributing to higher standards of track maintenance and obtaining better train riding characteristics.

- 4—Increased thermal efficiency.
- 5—Clearances to permit operation without restriction on the various parts of the system.
- 6—Symmetrical appearance with smooth lines, free from the effects of miscellaneous appliances, piping, and other details.
- 7—A high degree of reliability for uninterrupted service under conditions of dense traffic, especially on the eastern section of the system, requiring relatively simple but adequate machinery, combined with the use of well proved auxiliary equipment, such as feedwater heaters and mechanical stokers.

After the preparation of several preliminary designs, in which the American Locomotive Company, the Superheater Company, and others co-operated to the fullest extent, the conclusion was reached that the objectives

\* An abstract of the first part of a paper, contributed by the Railroad Division, which was presented at the semi-annual meeting of the American Society of Mechanical Engineers held at Kansas City, Mo., June 16 to 19, 1941. A concluding abstract with a summary of the discussions which followed the presentation of the paper will appear in a later issue.

could be most efficiently attained by using a 4-6-4 wheel arrangement which would satisfy the requirements for capacity and weight and avoid the addition of a fourth pair of driving wheels, with a resultant increase in size, weight, and first cost, as well as higher maintenance costs.

This arrangement represented the first six-driver loco-

Table I—Progressive Development of the Pacific Type Locomotive on the New York Central

Type of locomotive	4-6-2	4-6-2	4-6-2	4-6-2	4-6-2
Road Class	K80	K2a	K3Q	K3r	K5b
Date built	1904	1907	1923	1925	1926
Maximum tractive force, engine, lb.	28,500	29,160	30,900	32,200	37,650
Maximum tractive force of booster, lb.	...	...	9,700	9,700	9,700
Weights in working order, lb.:					
On drivers	142,500	173,000	194,500	169,000	185,000
Total engine	224,000	268,000	295,500	278,000	302,000
Driving wheels, diameter outside tires, in.	75	79	79	79	79
Cylinders, number, diameter and stroke, in.	22 x 26	22 x 28	23 1/2 x 26	24 x 26	25 x 28
Boiler:					
Steam pressure, lb.	200	200	200	200	200
Diameter, first ring, in. side, in.	70 5/8	70 5/8	70 5/8	70 5/8	79 1/2
Grate area, sq. ft.	50.2	56.5	56.5	56.7	67.8
Heating surfaces, sq. ft.:					
Evaporative, total	3,283	3,789	3,424	3,421	3,952
Superheater	672	724	832	839	1,150
Tender:					
Water capacity, U. S. gal.	6,000	7,500	8,000	10,900	15,000
Fuel capacity, tons	14	12	12	16 1/2	16
Trucks	4-wheel	4-wheel	4-wheel	4-wheel	6-wheel
Max. i. hp.	1,700	2,000	2,100	2,140	3,200
at m. p. h.	39	45	45	45	54
Max. db. hp.	1,430	1,655	1,720	1,750	2,530
at m. p. h.	35	40	40	40	45

motive, built with four-wheel leading and trailing trucks for service in America.

To meet the demand for exceptional steaming capacity at sustained high speed with heavy load, the size and proportions of the boiler were given first consideration, ample heating surfaces being essential, with extra-large superheater and a grate area sufficient to insure an economical rate of firing under maximum conditions of steam generation. To carry the added weight thus imposed on the rear of the locomotive, without excessive loads on trailing or coupled axles, the four-wheel trailing truck was used, thus securing the advantage of providing for large firebox capacity with comparatively light individual axle loads and consequent low rail stresses.

In developing the boiler design, the provision of a combustion chamber was carefully considered but, because of serious difficulties then being experienced with riveted-seam construction, it was finally omitted.

To reduce the pressure drop and other losses and to provide for more efficient use of the steam in the cylinders, the steam and exhaust passages were enlarged, as compared with the K-5 Pacific type, and a front-end throttle was installed. A large-volume steam chest with valves 14 in. in diameter, similar to those of the K-5 type, was retained.

Other special features included air compressors mounted on the front deck for improved weight distribution and, for the first time, a specially designed cast-steel pilot and drop coupler, providing a surface free from the projection of coupler and pocket for clearing effectively possible obstructions on the right of way. The centrifugal-type boiler feed pump was first introduced on this design with the heater located in a recessed portion of the smokebox top and a large portion of the piping placed under the jacket. Careful attention was given to the arrangement of controls and gages in the cab for convenient access and clear vision.

In Table II are shown the principal dimensions of the last of the J-1 class as received in 1931 and also the principal engine dimensions and proportions of the design as finally determined for the first sample J-1a, No.

5200,<sup>2</sup> built in 1927, except that the weight on drivers of the latter was 182,000 lb. and total engine weight was 343,000 lb. A tender with four-wheel trucks was used with this first engine having a capacity of 10,000 gal. of water and 18 tons of coal.

From 1927 to 1931, a total of 205 of these locomotives, designated as the Hudson type, were received and placed in service.

Subsequently, all of the J-1 class were dynamically counter-balanced to provide smoother operation and to permit the use of shorter running cutoff, as well as to improve the track effects. Roller bearings were installed on all engine and tender trucks and to the drivers of eight locomotives. All engines received speed recorders, later augmented by cutoff-selection equipment.

Cast-steel beds with integral cylinders were applied, the engines already being equipped with one-piece cast-steel tender frames, engine-truck, trailer-truck, and tender-truck frames. The substitution of integral construction for the multiple-bolted parts of earlier locomotives eliminated a large number of bolts and contributed to increased availability and continuity of operation with substantial reduction in maintenance costs.

At the end of 1940, a total of 437 locomotives of this 4-6-4 type had been placed in service in the United States and Canada, including the 275 on the New York Central

Table II—Further Development of the Six-Coupled Locomotive on the New York Central

Type of locomotive	4-6-4	4-6-4
Road class	J-1e	J-3a
Date built	1931	1937
Max. tractive force, engine, lb.	42,360	43,440
Max. tractive force of booster, lb.	10,900	12,100
Weights in working order, lb.:		
On drivers	190,700	201,500
Total engine	358,600	360,000
Driving wheels, diameter outside tires, in.	79	79
Cylinders, number, diameter and stroke, in.	25 x 28	22 1/2 x 29
Boiler:		
Steam pressure, lb.	225	275
Diameter, first ring, inside, in.	82 1/10	80 5/8
Combustion chamber length, in.	None	43
Firebox volume, cu. ft.	428	519
Gas area through tubes and flues, sq. ft.	9.67	8.91
Grate area, sq. ft.	81.5	82
Heating surfaces, sq. ft.:		
Evaporative total	4,484	4,187
Superheater (type)	1,951-E	1,745-E
Tender:		
Water capacity, gal.	15,000	14,000
Fuel capacity, tons	24	30
Trucks	6-wheel	6-wheel
Max. i. hp.	3,900	4,725
at m. p. h.	67	75
Max. db. hp.	3,240	3,880
at m. p. h.	58	65

System. The total weight in working order for each of these locomotives ranged from 310,000 to 415,000 lb., with corresponding variations in maximum tractive force.

#### Performance and Capacity Tests, J-1 Hudson Versus K-5 Pacific Type

Class J-1a No. 5200 was subjected to complete performance and capacity tests shortly after delivery in 1927. Because of the total engine weight being held to 343,000 lb. and the smaller and lighter tender used, this locomotive delivered a maximum drawbar horsepower of 3,300 at 58 m. p. h. However, subsequent improvements already referred to increased the weight of the Hudson-type locomotives and, consequently, the principal test results here given are for the last-built and heavier class J-1a tested in 1937.

The complete performance and capacity tests of classes J-1a (No. 5339) and K-5b (No. 8363) were conducted under spring and summer weather conditions over the

<sup>2</sup> See "First Hudson Type Locomotive," *Railway Age*, February 19, 1927, page 523.

Mohawk division of the New York Central between Albany, N. Y., and Syracuse, a distance of 140 miles. This division is generally representative in profile and operating characteristics of the main line between New York and Chicago with the exception of the severe though comparatively short grade westbound between Albany and West Albany, a distance of about three miles, where the maximum grade is 1.63 per cent on a curvature of  $3\frac{1}{2}$  deg. With a total rise westbound of 384 ft. in the 140-mile division over a rolling profile, the average grade is 0.05 per cent with a maximum of about 0.5 per cent for approximately 1.5 miles westbound and about 0.75 per cent for slightly over two miles eastbound.

All tests were made under regular road-service conditions of operation, the trains consisting of empty standard steel passenger coaches varying in number from ten to twenty which, with a dynamometer car, provided train weights of 780 to 1,465 tons. These trains were selected as representative of normal daily operation expected of the locomotive. Average test results demonstrated that the class J-1 Hudson type surpassed all previous New York Central locomotives in maximum horsepower, coal and water consumption per horsepower, weight per horsepower, and over-all efficiency.

A comparison of the principal results obtained for a single division run with representative trains is given in Table III. It should be especially noted that, except for the maximum power characteristics which may be duplicated at will with full boiler pressure and locomotive in good condition, the results shown are on the basis of over-all averages for the complete division runs, and indicate regular daily service performance rather than maxi-

Table III—Comparison of Test Run for K-5 and J-1 Locomotives

	Maximum power K-5	Improvement, J-1, per cent
Tractive effort with booster, lb...	48,750	55,100
Main-engine tractive effort, lb....	40,000	45,400
Main-engine drawbar pull, lb....	37,000	41,300
Cylinder horsepower .....	3,200	3,900
	at 54 m.p.h. at 67 m.p.h.	22.0
Drawbar horsepower .....	2,530	3,240
	at 45 m.p.h. at 58 m.p.h.	24.1
		28.1
		28.9
Average-performance data		
Number of cars and weight in tons	15-1053	18-1244
Average working speed, m. p. h...	51.2	55
Average firing rate, lb. dry coal per hr. ....	5,867	6,940
Water delivered to boiler, lb. per hr. ....	40,636	57,200
Evaporation per lb. of dry coal, lb.	6.94	8.24
Combined efficiency — boiler, feed- water heater and superheater, per cent .....	67.8	74.6
Steam per i. hp. hr., lb.:		
Cylinders only .....	15.42	15.44
Including auxiliaries .....	17.00	17.28
Dry coal per i. hp. hr., lb.:		
Cylinders only .....	2.22	1.94
Including auxiliaries .....	2.46	2.10
Coal as fired per car mile, lb....	7.22	7.03
Weight per i. hp., lb. ....	94	90
Based on working-order weight, lb. ....	302,000	352,000

mum values for short periods or under controlled conditions for the separate items.

Comparative curves representing the drawbar pull and drawbar horsepower versus speed are shown in Fig. 2, which also includes curves for locomotives of more recent design as discussed later. With a starting effort approximately 12 per cent greater than the K-5, increasing to 37 per cent more at a speed of 70 m. p. h., and with an increase of 28 per cent in maximum drawbar horsepower at a speed 29 per cent higher, the weight per horsepower of the J-1 Hudson type has been decreased.

As early as 1931, when the last of the J-1 class was built, consideration was already being given to the future development of this type in anticipation of greater power

demand necessitated by the constantly increasing weight of trains and shortening of schedules. In order to reduce weight and also to gain some experience in the use of alloy steel of high tensile strength, with a view toward increasing the steam pressure, three of these locomotives

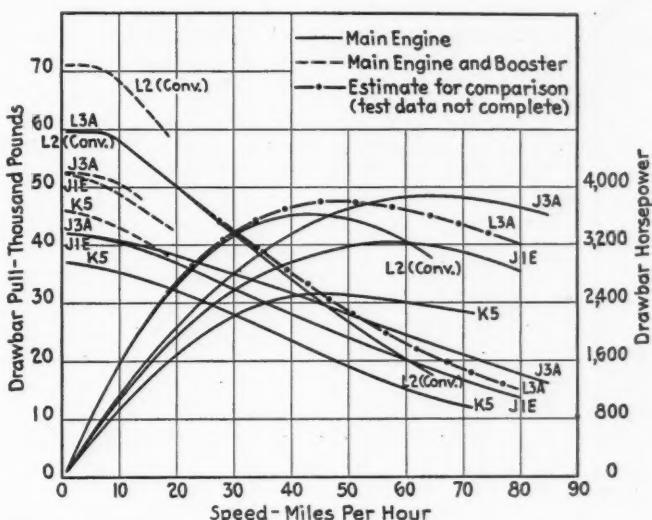


Fig. 2—Curves Showing Drawbar Pull and Horsepower Vs. Speed for Various Types of Locomotives

were equipped with nickel-steel boilers. Two of the three also had roller bearings on all wheels except on the trailing truck, and the entire lot had roller bearings on the engine truck and tender wheels.

Subsequently, one of the three, No. 5344, received lightweight roller-bearing rotating and reciprocating parts and the counter-balance was reduced proportionately, providing lower rail stresses and improved riding qualities. At this time, the boiler pressure was raised from 225 to 250 lb. per sq. in. and the cylinders were bushed to preserve the same starting tractive force and adhesion factor as on others of the same class.

As previously explained, successive lots of the J-1 class had received various improvements when built and subsequently with gradual increase in the weight of engine and tender. The comparative weights of the original class J-1a and the latest class J-1e compare are shown in a table.

Table IV—Final Effect of Improvements in the J-1 Class on Increases in Weight

	Original J-1a	Latest J-1e
Engine truck, lb. ....	63,500	65,700
Drivers, lb. ....	182,000	190,700
Four-wheel trailing truck, lb. ....	97,500	102,200
Total engine, working order, lb. ....	343,000	358,600
Tender, fully loaded, lb. ....	212,200	305,600

On the basis of the J-1 test results, the experience accumulated with the altered locomotives of this class, and other considerations, the general objectives for the new design were set as follows:

1—Maximum cylinder horsepower approximately 20 per cent greater at a much higher speed.

2—Boiler pressure 275 lb. per sq. in. versus 225 lb. per sq. in.  
3—Equal main-engine starting tractive force, with some addi-

4—Boiler and superheater proportioned for higher capacity

5—Approximately same over-all length and clearance limitations.

6—Highest capacity tender possible within the then total length limitation.

7—Least possible increase in weight, and weight distribution no less favorable from track standpoint.

Careful study of the situation indicated that, with the utmost attention to all details of design, these objectives could be attained and still adhere to the 4-6-4 wheel arrangement rather than using another pair of driving wheels, thus affecting substantial savings in size, weight, first cost, and operating expense.

In the development of the new design, the cooperation given by The American Locomotive Company, the Superheater Company, the Timken Roller Bearing Company, and others was of the utmost value.

Fifty of these locomotives were built in the fall of 1937 and the spring of 1938; ten were streamlined and five of these had roller bearings on main and side rods. The principal dimensions and proportions<sup>3</sup> are shown in Table II.

With a boiler pressure of 275 lb. per sq. in., cylinder sizes of 22½ in. diam. and 29 in. stroke were fixed to produce a main-engine starting tractive force of 43,440 lb., slightly more than the 42,360 lb. of the J-1 class. The booster provided an additional 12,100 lb. starting effort. A large-volume steam chest with 14-in. valves, similar to the J-1 class, was retained but the steam passages from dome to exhaust were enlarged in proportion

Table V—Performance of J-3 Class Locomotives Compared with J-1 Class

	Maximum power J-1	Improvement, J-3, per cent
Tractive force with booster, lb....	55,100	55,000
Main-engine tractive effort, lb....	45,400	45,000
Main-engine drawbar pull, lb....	41,300	41,500
Cylinder horsepower .....	3,900	4,725
	at 67 m.p.h.	at 75 m.p.h.
Cylinder horsepower per pair of driving wheels .....	1,300	1,575
Drawbar horsepower .....	3,240	3,880
	at 58 m.p.h.	at 65 m.p.h.
Average performance, division run of 140 miles		
Number of cars and weight in tons	18-1244	18-1253
Working speed, m.p.h....	55	59
Firing rate, dry coal per hour, lb.	6,940	6,419
Water delivered to boiler per hour, lb....	57,200	54,900
Evaporation per pound of dry coal, lb....	8.24	8.32
Combined efficiency; boiler, feed- water heater, and superheater, per cent....	74.6	76.3
Steam per i. hp. hr., lb.:		
Cylinders only .....	15.44	14.76
Including auxiliaries .....	17.28	16.89
Dry coal per i. hp. hr., lb.:		
Cylinders only .....	1.94	1.84
Including auxiliaries .....	2.10	2.03
Coal fired per car mile, lb....	7.03	6.21
Weight per i. hp., lb....	90	76
Based on weight of engine in working order, as tested, lb....	352,000	360,000

to the cylinder area to provide free passage of the steam and reduce losses in transmission.

Special design and equipment features were as follows:

Roller bearings applied to all wheels.

Reciprocating parts of special lightweight design.

Revolving parts reduced in weight.

Dynamic counterbalancing.

Reverse-gear cylinder located on center line of engine to assist in reducing irregularities or inequalities in valve travel due to deflection or other causes.

Speed recorder and cutoff-selection equipment.

Rubber twin-cushion double-acting draft gear at rear of tender to eliminate free slack in both direction of gear movement substituting controlled resiliency to obtain smooth and efficient operation of trains. The ten streamlined engines received tight-lock couplers.

<sup>3</sup> See "New N. Y. C. Locomotives Show High Power Concentration," *Railway Age*, April 2, 1938, page 597.

The requirements for increased cylinder power and consequent greater boiler capacity and higher working steam pressure, together with the roller-bearing equipment, improved brakes, additional sand-box capacity, and certain minor items, indicated a weight increase of about 14,750 lb. over that of the latest class J-1 but, as previously stated, one of the major objectives was to hold the weight as closely as possible to that of the J-1 class and to accomplish this the following features were incorporated in the design:

Nickel-steel boiler-shell sheets.

Cast-steel unit-bar grates.

High-tensile-steel drop coupler.

Cor-Ten steel main air reservoirs.

Aluminum cab, running boards, casings, and gage board.

Magnesia-block lagging of light weight.

Tubes and flues to close tolerance.

Booster exhaust piped to tender instead of to stack.

Integral cast-steel frames and cylinder, cradle, engine-truck and trailing-truck frames of lightened design.

Lightweight new-design valve gear.

Lightweight reciprocating parts and alloy-steel rods also contributed to the saving in weight.

The resulting weight reduction amounted to 13,350 lb., making the net addition only 1,400 lb. with a total weight of engine in working order of 360,000 lb., of which 201,500 lb. were placed on the drivers.

With this total weight and the distribution obtained, together with the use of reduced-weight rotating and reciprocating parts and dynamic counterbalancing, the calculated stresses on the track structure were satisfactory and well within permissible limits.

The tests of the J-3 were conducted with engine No. 5408 during the last three months of 1937, over the Mohawk Division under regular service conditions of operation, the trains consisting of 22, 17, and 10 cars which, with the dynamometer car, furnished weights back of the tender of 1,609, 1,244 and 766 tons, or heavy, medium, and lightweight trains.

The principal results of representative performance are given in Table V, the figures for the class J-1 being repeated for ready comparison.

The drawbar pull and drawbar horsepower throughout the speed range are included in Fig. 2, with other types for comparison. Fig. 3 also shows the cylinder tractive force and horsepower for the J-3a class only.

While the same main-engine starting tractive force has been obtained in the new design, as desired, the drawbar

(Continued on page 283)

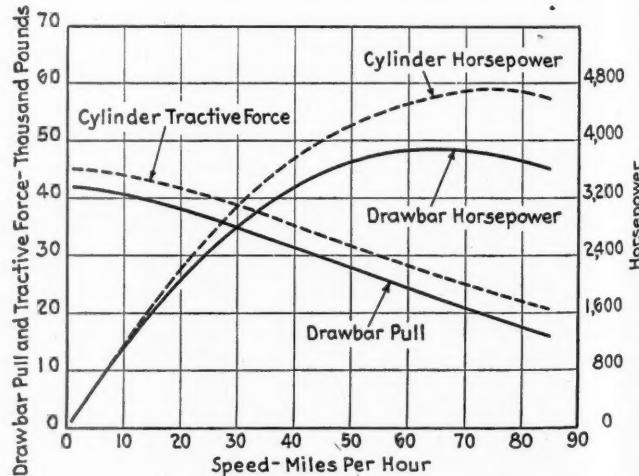
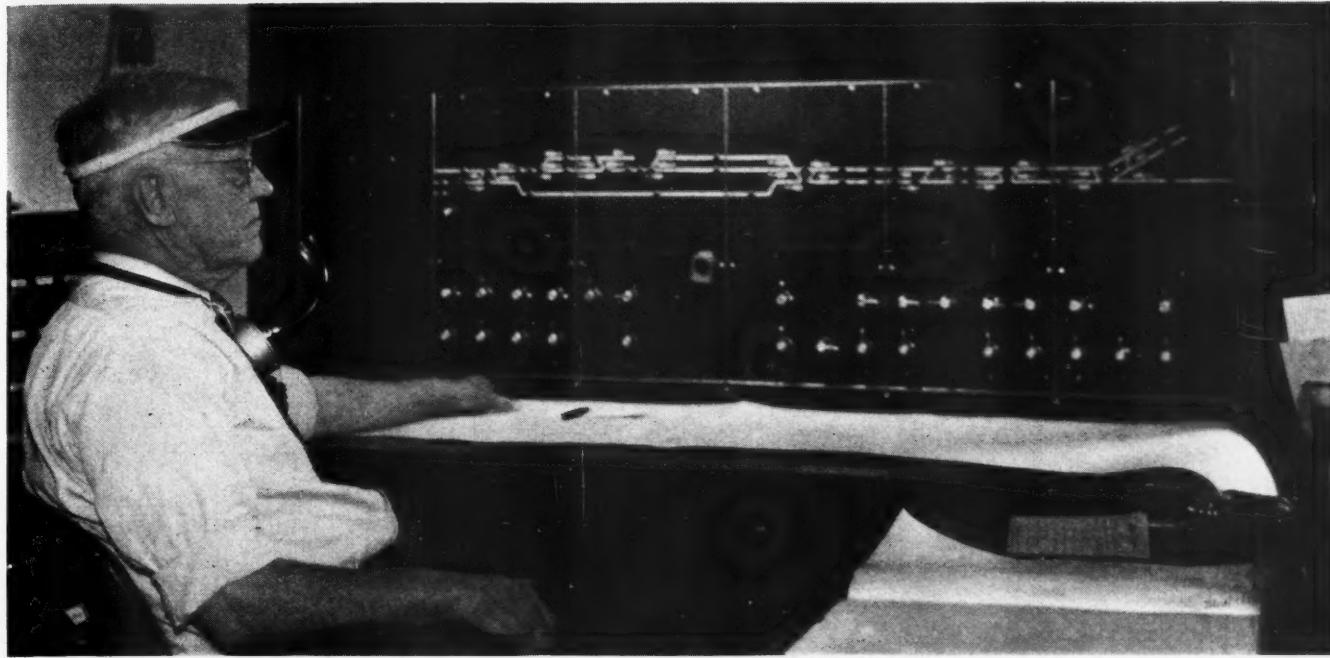


Fig. 3—Traction and Horsepower Characteristics of Class J-3a Locomotives



The Centralized Traffic Control Machine in the Office at Oneonta, N. Y.

## Centralized Traffic Control on the Delaware & Hudson

Project on 22 miles of road permits removal of 23 miles of track and 4 interlockings

THE Delaware & Hudson has completed an installation of centralized traffic control on a 22.5-mile section of the Susquehanna division, which extends from Binghamton, N. Y., to Albany, with a branch from Delanson through Schenectady, N. Y., to Mechanicville. At Binghamton, the south end of the division, connections are made with the Delaware, Lackawanna & Western and the Erie; and at Wilkes-Barre, Pa., with the Lehigh Valley and the Central Railroad of New Jersey; while at Hudson, connections are made not only with the Pennsylvania but also with branch lines extending to hard coal fields. At Mechanicville, the north end of the division, connections are made with the Boston & Maine which handles traffic to and from points in New England. From Mechanicville, other divisions of the Delaware & Hudson extend northward to Rouses Point, N. Y., where connections are made not only with the Canadian National, but also with the Napierville Junction Railway which extends to Delson Junction, Que., where connections are made with the Canadian Pacific. The average daily traffic on the section of the Delaware & Hudson on which the centralized traffic control was installed, includes 4 passenger trains, 35 through freight and 2 local freight trains, 2 milk trains, and approximately 7 light movements northward by pusher locomotives, thus totaling approximately 50 train movements daily.

Centralized traffic control is now employed between Schenevus, N. Y., and Dante, 12.7 miles, and also between Central Bridge, N. Y., and Delanson, 9.8 miles, all of

which is now two-track territory, with the control machine in the dispatcher's office at Oneonta, N. Y., 14.2 miles south of Schenevus. The purpose of this project was to permit the use of signals for governing train movements by signal indications, superseding time-tables and train orders. Based on previous experience with C. T. C. as a means of facilitating train movements and increasing track capacity, the improvement program included the removal of a total of 23.67 miles of third main track.

### Track and Interlockings Removed

Lines of the Delaware & Hudson from Wilkes-Barre, Pa., and Binghamton, N. Y., extend northward through Oneonta to Delanson, at which point there is a junction between a single-track line extending 26.2 miles to Albany, N. Y., and a double-track line extending 30.3 miles via Schenectady, N. Y., to Mechanicville, N. Y. The line between Albany and Delanson is used primarily by passenger trains, while the through freight trains are routed via Schenectady. From a point approximately one-half mile north of Central Bridge and extending to DJ there were three tracks, two northbound and one southbound. One of the tracks was removed and the traffic is now handled in this territory on the remaining two tracks. The ascending grade northward on the original double-track line varies up to 1.16 per cent, while a third track, built on a different alignment, has a maximum grade of 0.8 per cent northward. In the new



Northbound Freight Train Approaching the C. T. C. Home Signal at JX Layout

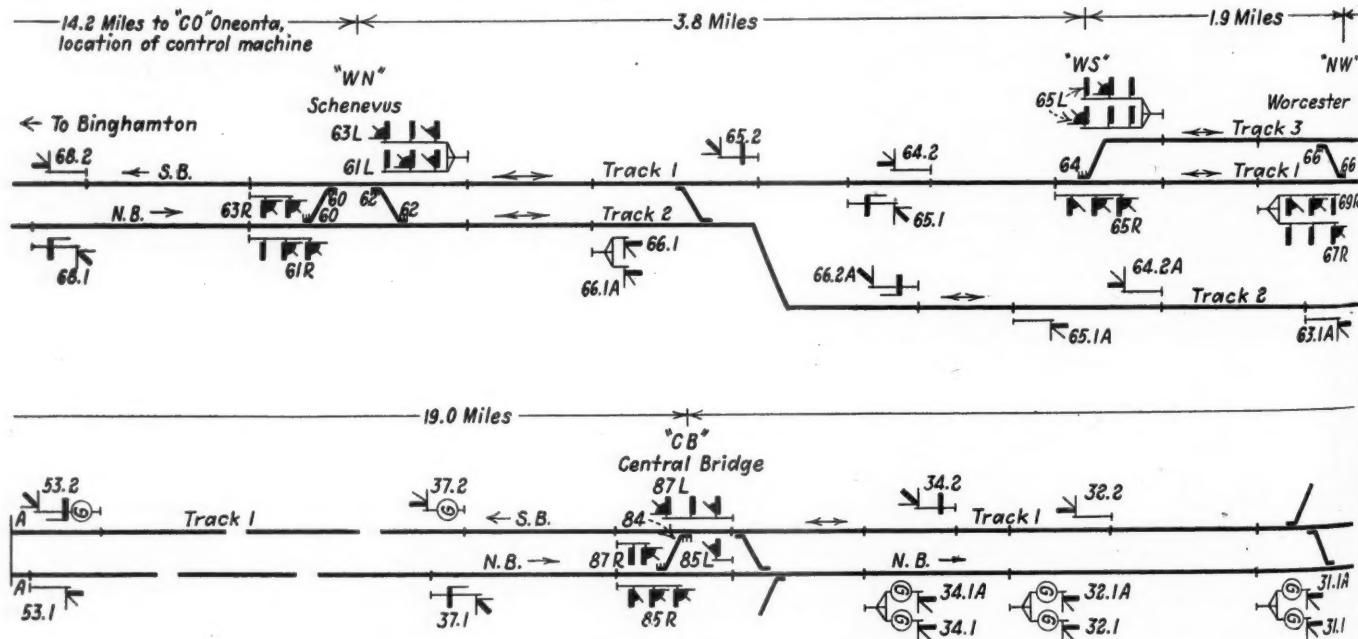
arrangement, all northbound trains use the latter track. Between WN and DA, the ascending grade northward on the original line varies up to a maximum of 0.99 per cent, while on a third track, on a different alignment, the maximum ascending grade northward is 0.5 per cent. As a part of the changes, one of the two tracks of the original double-track line was removed between WE and NW, as well as between WS and WN, thus leaving a third track about two miles long between DA and WE and between WS and WN.

Removal of these tracks permitted extensive simplification of the layouts of turnouts and crossovers at the various junctions. At all of these locations, new 112-lb. rail and new No. 20 turnouts and crossovers were in-

at WE, the south end of the third track at East Worcester, as well as at NW and WS, the two ends of the third track at Worcester. The power switches and necessary signals in the territories between Delanson and Central Bridge, as well as between Dante and Schenevus, are controlled by the C. T. C. machine in the dispatcher's office at Oneonta.

#### Signaled for Direction of Traffic

With the previous track arrangement, each of the two or three tracks, as was the case, was equipped with semaphore-type automatic block signaling for train movements in one direction only. The new signaling pro-



Track and Signal Plan of the Centralized Traffic Control

stalled, so that trains may make diverging moves at 40 m. p. h. In-so-far as through trains were concerned, the layout of 5 crossovers at former Schoharie Junction, approximately one mile north of CB was no longer required, and 4 crossovers, as well as the entire all-electric interlocking were eliminated. The mechanical interlockings at DJ, DA and WN were also eliminated.

In addition to the new electric switch machines and searchlight-type color-light signals at the locations of previous interlockings, similar new switch machines and signals, as a part of the C. T. C. system, were installed

vides for train movements in either direction on various sections of track.

In the territory between DA and WN, the passenger trains, the local freights and the milk trains, are operated in either direction on the old line (Track 1), so that they can serve the towns located on this line. For this reason, this section is signaled for train movements in either direction. In order to permit the operation of freight trains in either direction on the low-grade line between DA and WN, while passenger trains are using the old line, the low-grade line likewise was signaled

for train movements in either direction. Track No. 1 in the territory between JX and CB, and both of the tracks in the section between JX and DJ are signaled for train movements in either direction. In the territories now equipped with C. T. C., there were previously 92 interlocking and automatic block signals, as compared with a present total of 69 signals.

### The CB-DA Section

In the 19-mile section between CB, Central Bridge, and DA, Dante, the northward and southward tracks are adjacent at 13-ft. centers and are on the same grade. No track changes were made in this section as a part of the recent project. The automatic signaling in this section is arranged for single-direction train operation, right-hand running. When a proceed aspect is displayed by the southward home signal at Central Bridge, this aspect authorizes an approaching train to proceed, right-hand running, to DA, in accordance with double-track rules in automatic block territory. Similarly, a proceed aspect displayed on the northward home signal at DA authorizes a northbound train to proceed to CB on the northward track in accordance with rules for operation in double-track automatic block signal territory. The southward home signal at CB and the northward signal of the same type at DA authorize train movements through this section for normal right-hand running. No train orders are required for normal train operation.

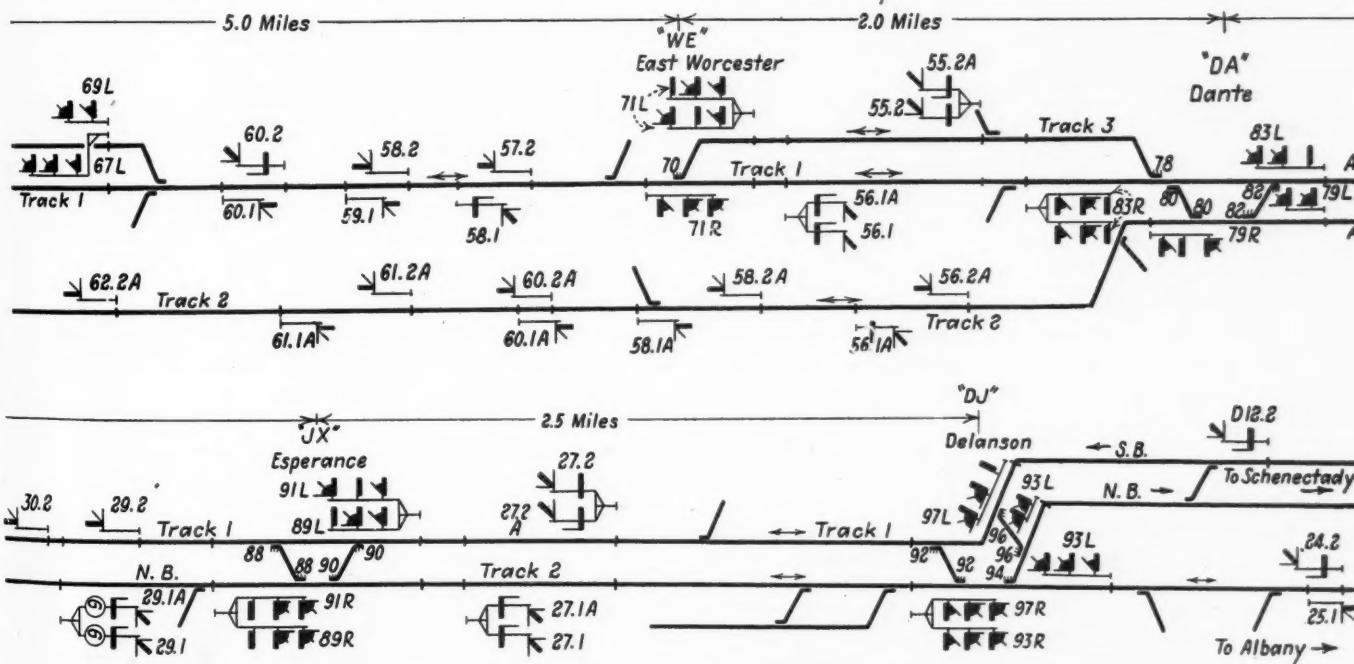
The southward dwarf signal 85L at CB and the third light of signal 87L on the normal southward track at CB normally display the Stop aspect. These signals govern-

trolled signal and at various hand-throw main-line switches. These phones, which are connected to the dispatcher's circuit, can be used by members of the train, track and signal maintenance crews to secure information from the dispatchers in case trains are stopped at a signal or desire to move on to the main track.

### Aspects of Signals

The C. T. C. controlled signals display aspects in accordance with the Delaware & Hudson standards for interlocking home signals. These signals are of the searchlight color-light type. Each high signal has three lights, the top one governing on the direct route, and the second governing to a diverging route over a turnout or crossover. Either the yellow or the green aspect can be displayed in the top or the second light, depending on whether one or two blocks ahead are unoccupied. The bottom light, which is provided to complete a "three-light" standard aspect, normally displays red, and, at some locations, yellow for following or switching movements. The condition under which calling-on signals can be used must be set up by a preceding train. On the control machine, a special push button is provided for all calling-on movements.

If a controlled signal is cleared for a route via a No. 20 crossover, and two blocks ahead are unoccupied, the aspect is "red-over-green-over-red," thus indicating that a route good for a speed of 40 m. p. h., over crossovers or a turnout, is lined up. In order that the engineman of an approaching train may have advance information, the approach signal, in such instances, displays the Ap-



Territory on the Delaware and Hudson Between Schenectady and Delanson

ing southward trains to the normally northward track south of CB, cannot be cleared to display proceed aspects under the control of the dispatcher, except as governing through the interlocking switch layouts. Likewise, no northward signal at DA governing to the southward track north of DA can be cleared by the dispatcher, except as governing through the interlocking limits. This arrangement is provided because reverse running is not used in the section between CB and DA, except in emergencies. In such instances train orders are used.

A telephone is located at or near each C. T. C. con-

proach-Medium aspect, yellow-over-green. In case the "home" signal displays a Stop aspect, the approach signal displays an Approach aspect, yellow-over-red. On the "home" signals, all light signal heads are mounted to the left of the mast, so that the lamps are in a vertical line.

On the two-light approach signals, the top unit is to the right of the mast and the lower unit to the left. This difference in mounting provides a readily observed distinction.

Each automatic block signal that is located on ascend-

ing grade of more than 0.5 per cent is equipped with a "G" grade marker, which authorizes a train to pass a signal displaying a red aspect without stopping, and proceed with caution prepared to stop short of train or obstruction.

### C. T. C. Control Machine

The C. T. C. control machine includes 14 levers for controlling 21 signals, and 14 levers for controlling 4 single switches and 10 crossovers. The conventional arrangement of indications is provided to indicate the positions of switches and the aspects displayed by the signals. Lamps in the track diagram (normally dark) indicate track occupancy of all portions of the main line, including the section between CB and DA.

Audible as well as visual indications are provided on the panel for all approach track circuits as well as for OS

"rolling" of the stock rails. As a special feature to prevent the "tipping" of switch points, each switch layout includes two of the new Type-M Ramapo vertical switch rods.

The switch machines are rated at 110 volts, d-c. In the opinion of the Delaware & Hudson, such machines are preferable to those rated at 20 volts because they operate more quickly, operating and locking in approximately 3 sec. From the time the dispatcher operates a switch lever until he gets an indication that the switch is over and locked, a period of approximately 8 sec. elapses; this time includes the sending of a control, the operation of the switch and the return of the indication. This 8 sec., as compared with perhaps 14 to 18 sec. required where low-voltage switch machines are used, saves approximately 7 to 9 sec., which, in many instances, is an important factor in preventing a train stop or a reduction in speed.



Dual-Control Power Switch with Adjustable Rail Brace and Special Type Switch Rods

sections. All other than OS track lights have red caps, while the switches and signals are provided with opal caps. The OS sections are provided with amber caps so that the locations of trains may be observed more readily when an audible indication is received. Originally all track indication lights were provided with red caps, but some difficulty was experienced in picking out an audible indication with a train moving through an OS section, and the red caps were changed to amber caps.

The controls and the indications between the dispatchers' office and the field locations are handled by Type-F, Size-10, Class-M Duplex coding system, using three line wires from the control machine throughout the territory to Delanson.

### Power Switch Layout

Each power switch is operated by a Model 5C or 5D d-c. electric switch machine. Lock rods and point detectors are provided. The switch ties are dapped 2 in., which is just enough to provide for the base of a switch machine. Plates  $\frac{1}{2}$  in. thick by 7 in. wide extend on top of the ties from the tie plates to the switch machine, thus eliminating any chances for lost motion. Ramapo tie plates and adjustable rail braces are used on the first three ties under the switch points, as well as on the inside and outside of the rail on the tie in approach to the points. This "inside" rail brace is used to prevent the

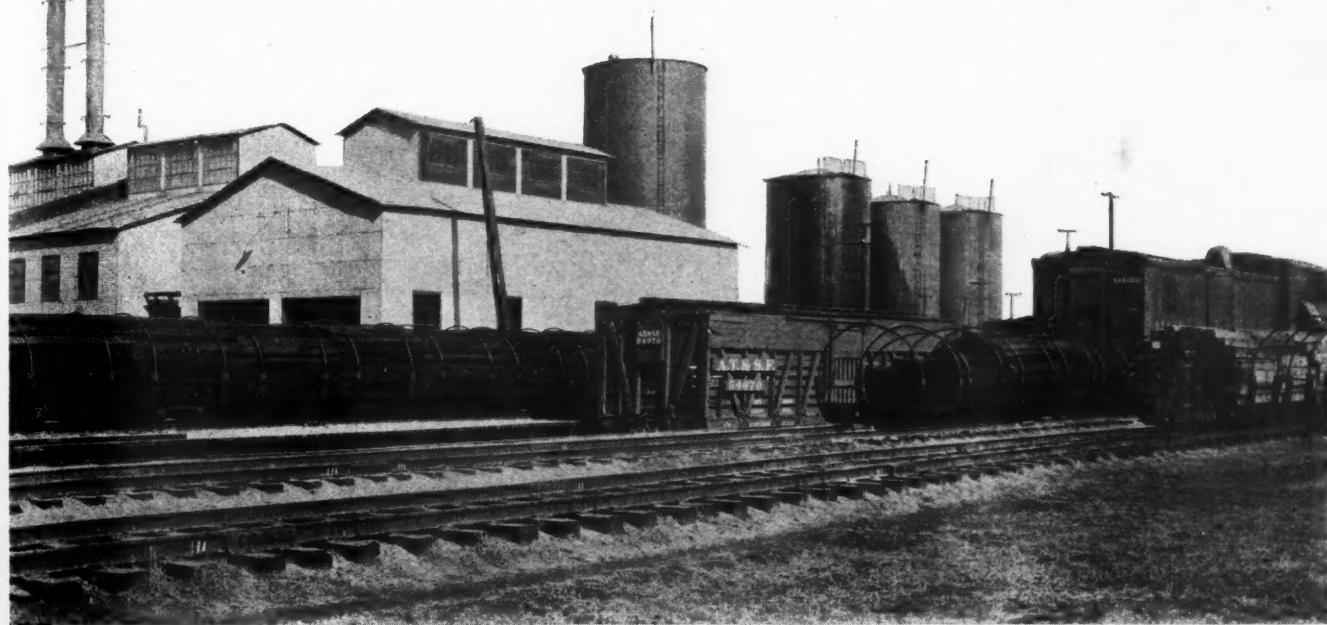
This installation is giving satisfactory service, is expediting train movements, and has reduced operating expenses by the elimination of four interlockings and the maintenance of the tracks removed. The major items of equipment were furnished by the General Railway Signal Company, and the construction was handled by the Delaware & Hudson signal forces, supervised by A. Vallee, supervisor of signal construction and B. H. Richards, signal supervisor, under the direction of A. H. Rice, signal engineer.

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Loading Granite on the Barre & Chelsea

# Wood Preservation Continues Upward Trend in 1940



The Number of Crossties Treated in 1940 Gained 19.3 Per Cent, as Compared to 1939

Helphenstine report shows that the volume of wood treated increased  $8\frac{1}{4}$  per cent as compared to 1939

**R**ESPONDING to accelerated economic conditions and greater industrial activity, wood preservation in 1940 continued the upward trend which it has followed consistently, beginning in 1934, except for a slight setback in 1938. During 1940 a total of 265,473,149 cu. ft. of wood was given preservative treatment, an increase of 20,253,271 cu. ft., or 8.26 per cent, over than the quantity in 1939, according to figures compiled by R. K. Helphenstine, Jr., Forest Service, United States Department of Agriculture, in co-operation with the American Wood-Preservers' Association. The volume treated was greater than for any year since 1930, except 1937, and amounted to 73.3 per cent of the quantity treated in 1929, the peak year for the industry.

The railways in 1940 maintained their position as the principal consumer of treated timber, as in all previous years since the beginning of the wood-preserving industry. Previous to 1939, this position had been assured by the fact that crossties alone constituted more than 50 per cent of the total volume of timber treated, and only the railways use ties. However, in 1940 as in 1939, crossties fell below 50 per cent of the total volume of wood treated, although when switch ties are added, the combined total amounts to 51.6 per cent of the total quantity of wood given preservative treatment in 1940. When other materials such as piling, poles, timbers, etc., used by the railroads are added, the total approximates 70 per cent of the total volume of wood treated in 1940.

Of the total volume of timber treated in 1940, crossties accounted for 127,999,794 cu. ft., an increase of 20,753,259 cu. ft. Numerically, a total of 42,666,598 crossties were given preservative treatment in 1940, an increase of 6,917,753 or 19.3 per cent. As in 1939, oak ties ranked first in number with 18,088,395, or slightly more than 42 per cent of the total. Southern pine continued in second place with 10,088,434 or almost 24 per cent; Douglas fir remained in third place with 4,373,319 crossties treated, accounting for a little more than 10 per cent of the total and gum ties continued in fourth place with 2,691,440 crossties treated, representing about 6 per cent. Other woods included lodgepole pine, ponderosa pine, maple, tamarack, birch, beech, hemlock and elm in the order named, aggregating 15.66 per cent of the total, while 741,635 crossties, or 1.74 per cent, were made from woods other than those named.

Of the total number of crossties treated in the year under review, 23,394,804, or 54.8 per cent, were treated with straight creosote or with solutions of creosote and coal tar; 18,354,873, or 43.0 per cent, were impregnated with mixtures of creosote and petroleum; and 602,976, or 1.41 per cent, were treated with zinc chloride; while all other preservatives accounted for only 0.74 per cent of the total number given preservative treatment. All crossties reported in 1940 were given pressure treatment.

During the year 27,450,801 crossties, or 64.3 per cent, were bored and adzed prior to treatment; 4,893,286 were

bored but not adzed; 464,454 were adzed but not bored; while 9,858,057, or 23.1 per cent, were neither adzed nor bored.

#### Classes of Material Treated in 1940

	Cu. ft.	Per cent of total
Crossties	127,999,794	48.3
Switch ties	8,859,145	3.3
Piles	15,659,660	5.9
Poles	74,129,493	27.9
Wood blocks	2,730,021	1.0
Construction timbers	12,496,453	4.7
Cross arms	674,988	0.3
Miscellaneous	22,923,595	8.6

The quantity of switch ties given preservative treatment in 1940 amounted to 106,309,739 ft. b. m., representing an increase compared to 1939, of 4,077,976 ft. b. m., or 4 per cent. In this classification oak was also in first place, the total for this species being 60,651,932 ft. b. m., or 57.05 per cent; Douglas fir remained in second place, with 15,704,362 ft. b. m., or 14.77 per cent; while Southern pine was again in third place, with 13,079,931 ft. b. m., or 12.32 per cent. Gum accounted for 7,845,401 ft. b. m., or 7.38 per cent. The remaining 8.48 per cent included maple, tamarack, beech, birch, lodgepole pine, elm, in the order named and a few miscellaneous species.

#### Piles Continue to Gain

In spite of an increase of 70 per cent in treated piles from 1938 to 1939, 1940 recorded another substantial increase, the production in that year amounting to 23,154,902 lin. ft., as compared to 21,655,737 lin. ft. in 1939, or an increase of 7 per cent. As in other years, Southern pine stood far ahead, with 19,415,052 lin. ft., or 84 per cent; Douglas fir ranked second, with 3,298,016 lin. ft., or 14 per cent; and oak, in third place, with only 298,763 lin. ft., or 1.3 per cent. The remainder consisted principally of Norway pine and western red cedar. All piles reported were treated by pressure processes in 1940, and all but 25,515 lin. ft. were treated with creosote or creosote mixtures.

The number of poles treated decreased by 422,890, or a little more than 9 per cent, to a total of 4,211,903 in 1940, as compared to an increase of 31 per cent in 1939. Most of the decrease was accounted for by a decrease of 414,958 in the number of Southern pine poles treated. This species still occupied first place, however, with a total of 3,147,337 poles or 75 per cent of the total number treated. Western red cedar poles were second with 829,875, or 19.7 per cent; northern white cedar was third with 133,346; and Douglas fir fourth with 33,015 poles treated. The remainder consisted of lodgepole pine, red pine, chestnut, oak and miscellaneous species. Of the total, 4,092,596 poles, or 97.2 per cent, were given full-length pressure treatment, as compared to only 78 per cent in 1939.

The wood-preserving industry used 174,625,305 gal. of creosote in 1940, as compared to 16,864,259 gal. in 1939, an increase of 10,761,046 gal., or 6.57 per cent. It is of interest to note that the consumption of creosote in 1940 has been exceeded only once since 1930 (in 1937), and that it was only 51,748,922 gal., or 23 per cent, less than the consumption in 1929, which was the largest ever recorded. Mixtures of creosote and petroleum in 1940 consumed 31,386,909 gal. of petroleum, compared with 24,438,774 gal. consumed in 1939, an increase of 6,948,135 gal. This volume of petroleum was used in the preparation of 64,370,186 gal. of such mixtures, as compared with 50,628,963 gal. in 1939, an increase of 13,741,223 gal.

In 1940 the wood-preserving industry used 1,220,000 lb. of zinc chloride, a reduction, as compared to the previous year of 731,517 lb., or over 37 per cent. On the other hand, the quantity of chromated zinc chloride increased 1,390,343 lb., or 54 per cent, as compared to the quantity used in 1939.

In 1940, 1,062,048 lb. of Wolman salts and 201,547 lb. of zinc-meta-arsenite were used. These quantities represent a decrease of 138,568 lb. of Wolman salts and of 14,233 lb. of zinc-meta-arsenite, as compared to the quantities consumed in 1939. For the first time another preservative, Celcure, formerly included in the miscellaneous group, has been segregated and reported separately. In 1940, 242,739 lb. of this preservative was used. For the remainder, 401,587 lb. of miscellaneous

#### Wood Preservation, 1909-1940

Together with Consumption of Creosote and Zinc Chloride

Year	Total material treated, cu. ft.	Number of crossties treated	Creosote used, gal.	Zinc chloride used, lb.*
1909	75,946,419	20,693,012	51,426,212	16,215,107
1910	100,074,144	26,155,677	63,266,271	16,802,532
1911	111,524,563	28,394,140	73,027,335	16,359,797
1912	125,931,056	32,394,336	83,666,490	20,751,711
1913	153,613,088	40,260,416	108,373,359	26,466,803
1914	159,582,639	43,846,987	88,764,050	27,212,259
1915	140,858,963	37,085,585	84,065,005	33,269,604
1916	150,522,982	37,469,368	96,079,844	26,746,577
1917	137,338,586	33,459,470	83,121,556	26,444,689
1918	122,612,890	30,609,209	56,834,248	31,101,111
1919	146,060,994	37,567,927	67,968,839	43,483,134
1920	173,309,505	44,987,532	70,606,419	49,717,929
1921	201,643,228	55,383,515	77,574,032	51,375,360
1922	166,620,347	41,316,474	87,736,071	29,868,639
1923	224,375,468	53,610,175	128,988,237	28,830,817
1924	268,583,235	62,632,710	158,519,810	33,208,675
1925	274,474,539	62,563,911	169,723,077	26,378,658
1926	289,322,079	62,654,538	188,274,743	24,777,020
1927	345,685,804	74,231,840	221,167,895	22,162,718
1928	335,920,379	70,114,405	222,825,927	23,524,340
1929	362,009,047	71,023,103	226,374,227	19,848,813
1930	332,318,577	63,267,107	213,904,421	13,921,894
1931	233,334,302	48,611,164	155,437,247	10,323,443
1932	157,418,589	35,045,483	105,671,264	7,669,126
1933	125,955,828	22,696,565	85,180,709	4,991,792
1934	155,105,723	28,459,587	119,049,604	3,222,721
1935	179,438,970	34,503,147	124,747,743	4,080,887
1936	222,463,994	37,952,129	154,712,999	4,127,886
1937	265,794,186	44,803,239	183,574,581	4,833,935
1938	244,221,442	44,598,678	166,183,891	4,829,590
1939	245,219,878	35,748,845	163,864,259	4,522,070
1940	265,473,149	42,666,598	174,625,305	5,180,896

\* Includes chromated zinc chloride.

salts and 239,358 gal. of miscellaneous liquids were used in 1940, a reduction of 26,378 lb. and an increase of 223,731 gal., respectively, as compared to 1939. The amount of miscellaneous salts would have shown a substantial increase if Celcure had not been removed from that classification.

The total quantity of miscellaneous materials given treatment in 1940 amounted to 275,083,146 ft. b. m., as compared to 218,695,000 in 1939, an increase of 26 per cent. Included in this figure were lumber, 234,133,962 ft. b. m.; fence posts, 17,926,013 ft. b. m.; tie plugs,

#### Treatment of Miscellaneous Material (Ft. b. m.)

	1940	1939	1938	1937
Lumber	234,133,962	186,429,495	116,640,856	118,258,910
Fence posts	17,926,013	13,819,213	14,206,465	15,985,256
Tie plugs	2,581,215	1,559,314	788,781	870,486
Crossing plank	724,506	None	807,684	1,379,114
Car lumber	None	48,204	None	137,544
Window sash	416	.....	.....	.....

\* For the first time in these reports, window sash are reported as a separate item under miscellaneous material.

2,581,215 ft. b. m.; crossing plank, 724,506 ft. b. m.; and window sash, 416 ft. b. m. This is the first time that window sash has been reported separately.

The number of treating plants in the United States in

1940 was 228, one less than in 1939. Of these, 223 were in active operation, the highest number on record, two more than in 1938 and 1939, the previous record years. During the year, only 5 plants were idle. Five new plants were constructed, all of them being pressure plants, and 4 plants were abandoned, 1 pressure plant and 3 of the non-pressure type. Of the total number of plants in existence, 179 were commercial plants that treat wood for sale or by contract; 23 were owned and operated by railways, and 26 were owned by public utilities, mining companies, etc., to supply their own needs.

## High-Capacity Steam Passenger Locomotive

(Continued from page 276)

pull at 70 m. p. h. has increased nearly 25 per cent, and the maximum drawbar horsepower is 20 per cent greater at a speed 12 per cent higher than the J-1. Coal and steam consumption per horsepower-hour have been decreased with a reduction of 15 per cent in weight per horsepower. An average thermal efficiency of 6.06 per cent at the drawbar was obtained for a complete division run, corresponding to 9.6 per cent at the cylinder.

### Thermal Efficiency at Tender

#### Drawbar Referred to Fuel

Reference to the thermal efficiency at the tender drawbar for the steam locomotive of conventional design usually affords an opportunity for considerable argument, although it is a fact that, during recent years, gradual improvement in this respect has been achieved.

Without questioning the fact that it is highly desirable to improve this performance characteristic, it is prudent to review some of the reasons for the relatively low

thermal-efficiency value, and to consider the practical advantages inherent in this form of motive-power plant.

The conventional locomotive is a noncondensing self-contained and self-propelled unit, confined within close and definite limits of weight, height, width, and in most cases length, because of operating clearance and load limitations. The necessarily high horsepower requirement naturally is accompanied by a high combustion rate and B.t.u. heat release per cu. ft. of firebox volume per hour. Furthermore, this complete power plant, including all auxiliary equipment and its own fuel and water supply, is handled successively by different crews of only two men each at high speeds in dense traffic under widely and rapidly fluctuating load requirements.

Steam-locomotive efficiency at the tender drawbar is affected by the non-power-producing wheels and by the weight carried thereby. The modern tender when fully loaded may represent the equivalent of one and a half loaded 70-ton coal cars or more. However, the hauling of this nonadhesive weight is amply justified through sustained power output and the attendant advantages obtained.

Simplification of design, particularly with respect to cylinders and valve gear, penalizes the thermal efficiency, but repayment is secured and augmented in terms of high serviceability and reasonable freedom from excessive maintenance troubles. Moderate first cost for an active motive-power unit is essential unless the net return on additional investment can be clearly established. The measure of the value of a locomotive is its use; idle motive power represents a total loss of investment and a constant expense. It is currently demonstrated that economically, maximum over-all-performance efficiency is secured through the use of a unit capable of providing uninterrupted service and consistently high mileage throughout its life, with the best available design of boiler, cylinder, and related parts to fulfill these conditions.

(To be concluded)

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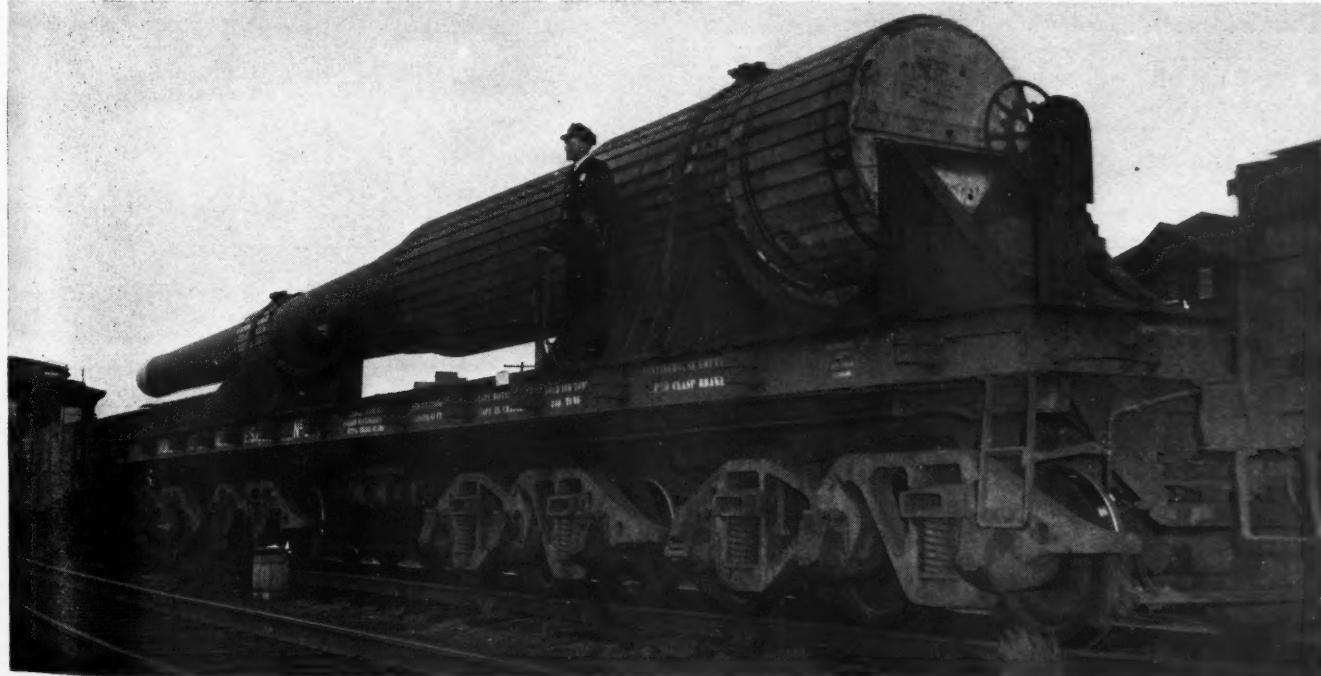


Photo courtesy New York, New Haven & Hartford

This 16-in. Gun Was Recently Shipped From (Mass.) Watertown Arsenal to Fort Church, R. I., via B. & M. and N. Y., N. H. & H. The Weapon is 68 ft. Long and Required a Specially Constructed Car Rolling on 24 Wheels for the Journey. The Combined Weights of the Gun and Special Car Totaled Well Over 200 Tons

## Modified Rock Island Reorganization Plan

WASHINGTON, D. C.

**M**ODIFYING its previously-promulgated final plan of reorganization for the Chicago, Rock Island & Pacific, the Interstate Commerce Commission this week made public a supplemental report in the proceeding, stipulating among other changes that the properties of the Rock Island, Arkansas & Louisiana should be included in the reorganized Rock Island system. The modified plan, which supersedes that outlined in the *Railway Age* of November 16, 1940, page 769, also increases the new capitalization by \$17,000,000, bringing it to \$368,127,410; but it sets up fixed charges slightly lower than those contemplated in the previous plan—\$2,256,386 as compared with \$2,415,519.

Like its predecessor, the modified plan wipes out Rock Island equity holders, finding that the preferred and common stock are without value. Present capitalization of the road is \$553,313,000, while its annual fixed charges amount to \$13,726,000. A summary of the approximate new capitalization and annual requirements, as set up in the modified plan, follows:

	Principal Amount	Annual Requirement
Assumed C. & M. bonds, 4 per cent	\$3,524,000	\$140,960
Undisturbed equipment obligations	24,943,916	616,244
R. F. C. note	2,500,000	62,500
First-mtge. 4 per cent bonds	30,917,060	1,236,682
Sinking fund	.....	200,000
 Total fixed interest debt	61,884,976	2,256,386
Capital fund (Based on 2 per cent of 1940 operating revenues)	.....	1,614,038
General-mortgage 4½ per cent income bonds	80,000,000	3,600,000
Sinking fund	.....	400,000
R. F. C. note	.....	37,500
 Total debt	141,884,976	7,907,924
Preferred stock, 5 per cent	75,000,000	3,750,000
 Total debt and preferred stock	216,884,976	11,657,924
Common stock	151,242,434	.....
Total capitalization	368,127,410	.....

The \$17,000,000 increase in capitalization is the net result of an increase on \$20,000,000 in contingent interest bonds and payments of outstanding obligations made or to be made prior to January 1, 1942, the time to which the effective date of the plan is advanced. With respect to the inclusion of the Rial, the previous report had left the way open for Rial bondholders to negotiate for the sale of that road to the Louisiana & Arkansas. In finding, as noted above, that the Rial should be included in the reorganized Rock Island system, the commission also found that acquisition of the Rial by the L. & A. would not be in the public interest; and that the Rial bondholders' committee plan of reorganization based upon the L. & A. offer for the properties should be rejected. With respect to its approval of the conveyance of the properties of the Chicago, Rock Island & Gulf to the reorganized company, the commission now states that it will require "a fair and equitable arrangement to protect the interests of the railroad employees affected, as required by law."

The provision in the plan which would give the holders of the \$3,524,000 of Choctaw & Memphis first mortgage 5-per cent bonds, with unpaid accrued interest thereon of \$1,233,400 to January 1, 1941, \$4,757,400 of new first mortgage bonds of the reorganized company, is modified, on account of the earnings record of the property, to provide (1) that the Choctaw & Memphis first mortgage, dated January 2, 1899, and the \$3,524,000 of bonds issued thereunder shall be assumed by the reorganized company, (2) the bonds shall remain outstanding with the maturity date extended 20 years and the interest rate thereon reduced to 4 per cent, and (3) that

for the \$1,409,600 of unpaid interest accrued on these bonds to January 1, 1942, the holders shall receive an equal face amount of new first-mortgage 4 per cent bonds of the reorganized company. Treatment of the bonds of the Choctaw, Omaha & Gulf is modified by crediting them with the entire earnings of the Choctaw & Memphis in excess of the latter's interest requirements, instead of merely the excess over 1½ times interest requirements. The treatment of the Reconstruction Finance Corporation has been modified in various respects, the most important of which is the issue to it of a new 10-year collaterally secured note for \$2,500,000 in recognition of various items of miscellaneous collateral.

The plan has been modified by elimination of the provision for appointment of one of the five reorganization managers by the trustee under the indenture under which the Rock Island's 30-year convertible bonds were issued, and by substitution of a provision under which one of the five reorganization managers would be appointed jointly by the trustees for the Rock Island general mortgage, the Rock Island first and refunding mortgage, and the Rock Island secured 4½ per cent bonds. The new plan will also permit the trustee under the Rock Island 30-year convertible bond indenture and the committee representing the holders of Burlington, Cedar Rapids & Northern consolidated first mortgage 5 per cent bonds to participate with other groups in appointing the fifth reorganization manager.

The plan's sales provision has been modified to permit, with the approval of the court, the use of funds which, in the judgment of the reorganization managers are available among the assets of the debtor's estate or of the reorganized company and are not necessary for working capital requirements of the new company or to pay any of the obligations under the plan, to pay the portion of the purchase price of property acquired at foreclosure sale under the plan, payable in cash. In addition, certain provisions of the approved plan have been modified to meet technical objections with respect to their workability; also certain provisions have been clarified in certain minor respects.

Under the plan as modified, equipment obligations will be assumed undisturbed as to terms. The Peoria Terminal Co.-Peoria Railway Terminal Co. first mortgage 4 per cent bonds will be extended to January 1, 1967, with the guaranty discontinued and otherwise undisturbed. The holders of outstanding Choctaw & Memphis first mortgage bonds will receive for each \$1,000 bond such bond extended for 20 years at 4 per cent interest, and for interest matured unpaid, upon presentation of the defaulted coupons, \$400 in new first mortgage bonds. The distribution of new securities to the holders of the remaining securities and claims, other than collaterally secured notes, will be as follows, no par common stock being stated at \$100 a share:

	Treatment				
	New first mortgage bonds	New income mortgage bonds	New preferred stock	New common stock	Totals
<b>Outstanding issue</b>					
C., R. I. & P. general mortgage 4-per cent bonds	\$83.51	\$454.14	\$445.98	\$336.37	\$1,320.00
C., R. I. & P. first & refunding mortgage 4-per cent bonds	58.65	232.72	209.62	524.85	1,025.84
C., R. I. & P. secured 4½ per cent bonds	66.29	263.03	236.93	593.22	1,159.47
C. O. & G. consolidated mortgage 5-per cent bonds	73.50	487.75	520.96	189.80	1,272.01
St. P. & K. C. S. L. first mortgage 4½-per cent bonds	48.55	161.33	128.59	612.20	950.67
R. I. A. & L. first mortgage 4½-per cent bonds	59.82	267.39	216.37	461.58	1,005.16
L. R. & H. S. W. 4-per cent bonds	42.26	188.88	152.84	63.44	447.42
B. C. R. & N. consolidated first mortgage 5-per cent bonds	.....	100.00	250.00	528.17	878.17

C., R. I. & P. convertible 4½-per cent bonds .....	433.33	433.33
General creditors, per \$1,000 claim .....	433.33	433.33
C., R. I. & P. 6-per cent preferred stock .....	eliminated	
C., R. I. & P. 7-per cent preferred stock .....	eliminated	
C., R. I. & P. common stock .....	eliminated	

The banks which hold the notes of the debtor will receive approximately the following totals of new securities:

New first mortgage bonds .....	\$759,731
New income mortgage bonds .....	2,749,742
New preferred stock .....	2,335,362
New common stock, shares .....	83,009.97

The Reconstruction Finance Corporation will receive the following:

New first mortgage bonds .....	\$2,250,228
New collaterally secured note .....	2,500,000
New income mortgage bonds .....	5,992,850
New preferred stock .....	4,461,710
New common stock shares .....	114,974.04
Assignment of share in marshaling and distributing fund of the Railroad Credit Corporation .....	
Without recourse Chicago, Rock Island & Gulf Railway Company Carrollton Branch first mortgage 6-per cent bonds, with a conveyance of the mortgaged property and an assignment of rentals .....	\$331,000
Cash payment of previous rentals from Carrollton Branch .....	
Assurances with respect to preservation of rights as pledgee of	

the Kankakee & Seneca Railroad Company first mortgage 4½-per cent bonds and the Rock Island Improvement Company first and collateral mortgage 5-per cent bonds .....

Chairman Eastman, who wrote a lengthy concurring-in-part opinion to accompany the previous report, filed a brief similar expression with the present decision. With the results reached he agreed in general, subject to his previously-expressed doubts "with respect to the method of allocating the new securities, if it can be called a method." He did not agree with the majority findings on the Rial. It was clear to Mr. Eastman that the public interest "would be served certainly as well, and probably better, if the Rial properties were acquired by the Louisiana & Arkansas, instead of being retained in the Rock Island system." He added: "In all the circumstances, and in justice, the Rial bondholders are entitled to obtain the best price for the properties that either the Louisiana & Arkansas or the Rock Island is willing to pay, and they should not be deprived by the reorganization plan and the findings of this commission of that equitable opportunity."

Commissioners Splawn and Johnson did not participate.

## Communications and Books . . .

### Frank Expression from Brotherhood Man

NEW YORK STATE

TO THE EDITOR:

I am requesting that you print the enclosed in your *Railway Age*. I have been in engine service on a large eastern railroad for the past 35 years and I feel free to state that there is no general sentiment for an increase in the basic wage scale among the rank-and-file of train service employees. Without the knowledge and general consent of the workers, our so-called representatives, in order to keep the pot boiling and the dues rolling in, are alone responsible for this unjust and unauthorized wage movement. Of course, the strike vote will show an "overwhelming majority" in favor of a strike, but who checks the strike vote?

Our men are interested in better working conditions, such as vacations with pay, expenses away from home, etc. But the heads of the Big Five are concerned only with maintaining their own soft berths and keeping a strangle hold on workers and management alike. These gentlemen have done nothing constructive for the past 20 years. I have been a so-called good Brotherhood man since 1908, but the principles for which the Brotherhood was founded have been cast aside by our so-called leaders. I am asking for "obvious reasons" that you do not publish my name, but I would be very glad to hear from you.

"BROTHERHOOD MAN"

[In order to protect the writer of the above communication, we have eliminated his name and that of the city from which the letter came.—EDITOR.]

### New Book

*The Civil War Career of Thomas A. Scott*, by Samuel Richey Kamm. 208 pages. 9 in. by 6 in. Bound in paper. Published by the University of Pennsylvania, Philadelphia, Pa. Copies available from the author at Wheaton College, Wheaton, Ill. Price, \$2.50.

Railroad men should take a great deal of pride in their industry after reading this study, for here they will read the fascinating story of a Pennsylvania executive who, in a sense, "was the War Department" in the Fall and Winter of 1861 while the Civil War raged. And as well, all through the narrative they will see how

the generals gradually woke up to the fact that railroads were the most important weapons they had. That some of them never did awaken, and continued to thrust their ignorant selves into misdirection of the railroads, made for the tragic personal conflicts that slowed up victory.

While this is a dissertation for a doctorate degree and couples onto a bibliography of amazing length and profundity, its author has the virtue of good narration as well as accuracy. He never allows the multiplicity of his sources (which include the archives of the P. R. R., state of Pennsylvania, and State and War Departments) to obtrude choppy, unrelated quotations or side-issues into the story. His research has given him an excellent grasp of railroad operation, too, which he uses to good advantage.

To recount briefly, "Tom" Scott—made vice-president of the Pennsylvania at 36—got into the Civil War even before "the shootin' began." He first handled the transportation of troops around semi-pro-South Baltimore, a ticklish problem. Then came the job of sending re-enforcements to save Washington, D. C., after the abortive "March on Richmond" failed at first Bull Run. Scott not only concerned himself with transportation, but worried just as much about getting supplies, raising troops and planning strategy. Shortly thereafter he became Assistant Secretary of War under Cameron and during the Fall and Winter of 1861 actually ran the War Department.

When the North decided to undertake offensive operations in the Mississippi valley it was Scott and the railroads on which the whole strategy depended. Scott was the eyes and ears of the War Department in the West, helping to plan the campaign; uncovering fraud and corruption, getting men and supplies to their destinations. On June 1, 1862, he resigned his post and returned to the Pennsylvania. But his activity in the War did not slacken. He now bent himself to the task of defending the state of Pennsylvania from threatened invasion, a job which consisted principally of arousing the apathetic citizens to their danger. Also he fought manfully with the problem of enlistments—which were sluggish—and himself raised the money to pay state militia. Gettysburg ended this crisis.

The biggest railroad job of the war was the movement of forces from the East to Tennessee and Alabama to relieve the Union forces there after the defeat at Chickamauga. Most "experts" estimated that it couldn't be done. The most optimistic figured on over a month for transportation. Actually the railroads moved 23,000 troops and their horses, guns and supplies from Bristow, Va., to Stevenson, Ala., a distance of 1,233 mi., in 11½ days. And this over disconnected railroads of varying gauges and states of repair. For this McCallum of the Erie and Garrett and Smith of the Baltimore & Ohio were responsible in the East and Scott from Louisville, Ky., on.

# NEWS

## Transport Board Gets Confirmed

Reed has his doubts about Childe—who is "competent" but has shown "bias"

President Roosevelt's nominations of Robert E. Webb of Kentucky, C. E. Childe of Nebraska, and Nelson Lee Smith of New Hampshire, to be members of the transportation study board called for in the Transportation Act of 1940 were confirmed by the Senate on August 11, the day on which they were reported favorably from the Senate committee on interstate commerce. Ordinarily such nominations would lay over a day, but the Senate acted in response to Majority Leader Barkley's request for immediate consideration.

The President has not yet designated the member who will serve as chairman, as provided in the act. Neither has the board yet obtained funds for its operations, two Presidential requests in that connection having been turned down by Congressional appropriation committees on the theory that there was no rush about providing funds for a board which was not in existence.

The Senate committee, which had done nothing about the board originally named, moved along promptly after the President on July 24 substituted the names of Messrs. Webb and Childe for Wayne Coy and Charles West, as noted in the *Railway Age* of August 2, page 208. The sub-committee appointed by Chairman Wheeler to consider the nominations made its favorable report to the full committee within a couple of days, holding no hearings. Included on the sub-committee, headed by Senator Smith, Democrat of South Carolina, was Senator Reed, Republican of Kansas, who was away from Washington, but expressed his views in a telegram to Senator Smith.

Among other things, Senator Reed expressed surprise over the nomination of Mr. Childe, who has been closely identified with inland waterway interests; and the Senator had no hesitation in stating that "if fully informed, the President has not handled this important question in line with purpose of the law." The only value of the board's report, and the only reason the provision was included in the Transportation Act, Mr. Reed also said, "is an impartial survey which does justice to every form of transportation and gives Congress a dependable basis on which to legislate and the public information to

which it is entitled." The remainder of his telegram follows:

"I have no preference for or prejudice against any qualified person competent to carry out this important task. As I have written Chairman Wheeler, am surprised at nomination of C. E. Childe, Omaha. He is perfectly competent transportation man; really one of the able men in that line; but he is closely associated with Mississippi Valley Association, and unless he is prepared to divorce himself entirely from inland waterway interests, which are only one factor, and to make impartial study and report, would oppose his confirmation, notwithstanding my high opinion of his ability. He has been traffic adviser and lobbyist for inland waterway interests and has shown bias and prejudice in hearings before our committee which are of record. Do not know Kentucky nominee and have no opinion as to his qualifications. Know Smith, of New Hampshire, slightly, and have no objection to him. I am sure that every member of subcommittee will agree to these premises. This is an important task and utterly useless unless impartially carried out. I am opposed to any nomination that directly or indirectly represents railroad, highway, or waterway interests."

Majority Leader Barkley had Senator Reed's telegram printed in the Congressional Record along with another from the Public Utilities Commission of Idaho, which had endorsed the nominees and urged the committee to act favorably.

### Western Railway Club Outing

Approximately 1,000 railway and railway supply men gathered at Olympia Fields Country Club, Chicago, for the annual outing of the club on Monday, August 12. More than 700 of this number played golf during the day. The outing was under the general direction of W. W. Kelly, general purchasing agent of the Atchison, Topeka & Santa Fe, and president of the club.

### New Haven Re-introduces Triangle Tours

The New York, New Haven & Hartford is this year re-introducing its three-day "triangle tours" between Boston, Mass., New York and Albany, which have not been operated for a number of years. The 580-mi. trip includes transportation via the New Haven between Boston and New York; thence Hudson River Day Lines river steamers to Albany and via the Boston & Albany or Boston & Maine between that point and Boston. Also included are hotel accommodations at New York and at Albany. The trip is priced at \$11.80.

## All Steel Now Under Priority

OPM now has say so on every pound of the rare metal—  
May help car builders

Steel in all its forms, including alloy steel, was placed under full priority control on August 9 in an order issued by E. R. Stettinius, Jr., director of priorities, Office of Production Management. Because the basic provision of the order is "that all defense orders must be filled ahead of non-defense orders," officers of the Association of American Railroads expect that one result will be an improvement in the situation with respect to deliveries of steel to car builders whose operations have been curtailed by shortages.

With the A-3 rating assigned them, materials for cars and locomotives qualify as defense materials at a relatively high place on the scale; anything with a rating of A-10 or higher is called a defense order. As the OPM statement put it, "defense orders include contracts or orders for the Army or Navy, for certain other government agencies, for Great Britain or any other lend-lease country, or any order to which a preference rating of A-10 or higher is assigned."

As noted above, the order places all iron and steel products under mandatory priorities; and while alloy steels are thus included a separate order will be issued giving details of the regulations applying to alloys. A similar order putting pig iron under full control was issued August 6. The steel order contains a six-point formula providing for the acceptance of defense orders. Among other things the producers must file monthly reports with the Division of Priorities; and if defense orders are rejected or delivery is delayed unreasonably the customer may bring those matters to the attention of the Division. Beginning September 1, purchase orders for steel must be accompanied by a special form (PD-73) obtainable from steel producing companies setting forth the purpose for which the ordered material will be used. The Director of Priorities may direct producers to make deliveries of steel in fulfillment of special defense needs; he may require them to modify production schedules; and he may allocate purchase orders to particular producers.

In line with the A. A. R. view mentioned at the outset, it was stated this week at OPM that one effect of the order was expected to be a more speedy release of plates to builders of railway equipment.

In this connection OPM's Division of Production announced on August 7 that OPM Director General Knudsen had recommended to Federal Loan Administrator Jones federal financing for the construction of a 780,000-ton plate mill at the Sparrows Point, Md., plant of the Bethlehem Steel Company. Eugene G. Grace, president of Bethlehem, the announcement said, "submitted the program to OPM as a partial solution of the critical plate situation growing out of the naval and merchant ship construction programs, railroad car building and other defense undertakings."

Meanwhile Priorities Director Stettinius has also announced a new Maintenance and Repairs Rating Plan to assure "a steady flow of maintenance and repair parts to essential industries." The plan is applicable at once to nine industries, including the railroads, and "common carrier passenger transportation by urban, suburban, and interurban electric railways." As noted in the *Railway Age* of July 5, page 33, the Office of Price Administration and Civilian Supply had previously promulgated an allocation program covering repair and maintenance materials for 26 industries including the railroads.

Under the OPM plan, the repair materials will get an A-10 rating, which, as noted above, is the lowest in the defense category. However, a special emergency rating of A-1-a may be assigned "in cases of extreme emergency," but only when telegraphic applications have been granted; and such applications will be granted "only in especially urgent cases, such as sudden breakdown, accident, fire or storm damage. The A-10 rating available on the repair parts will not come automatically; it must be applied for on Form PD-67. Moreover, it can be applied only to deliveries of maintenance and repair parts, and may not be used to obtain materials flowing into production, "excess" inventories of parts, or materials for plant expansion.

Other recent actions of the defense agencies included OPACS' August 12 order fixing a ceiling price of 12 cents a pound for copper. But because that ceiling "might act to jeopardize a small part of current output of domestic copper costing more than 12 cents to produce," OPACS Administrator Leon Henderson is recommending that the Metals Reserve Company, subsidiary of the Reconstruction Finance Corporation, purchase such high-cost copper at prices in excess of 12 cents a pound. For that reason, the price-fixing order exempts sales to Metals. A few days earlier OPACS had issued an order further amending its Price Schedule No. 4, fixing ceiling prices on iron and steel scrap. The changes, the announcement said, "establish for Gulf ports the same export ceiling price as that previously arrived at for the Eastern seaboard; add more basing points in Appendix A, and modify the existing shipping point price for dealers' yards located within basing points."

#### Erie Issues Less-Carload Bulletin

The Erie, in July, inaugurated a monthly bulletin for shippers and receivers of less-carload freight. Issued from the offices of freight traffic managers at New

York, Cleveland, Ohio, and Chicago, respectively, the bulletin will provide an information service on new facilities, schedules, rates, etc., as they are introduced from time to time.

#### "Specialists" in R.R. Repair Shops Wanted for Defense Program

The United States Civil Service Commission announces that there is urgent need for further "industrial specialists" in various fields, including railroad repair shops. On that account the federal civil service examination announced on July 7 has been amended to remain open for an indefinite period. Salaries range from \$2,600 to \$5,600 in various grades. No written examination is required.

#### 12,511 Air-Conditioned Cars

Class I railroads and the Pullman Company had 12,511 air-conditioned passenger cars in operation on July 1, according to the Association of American Railroads. This was an increase of 525 compared with July 1, 1940, and an increase of 311 since January 1, this year. Of the total number of such cars, Class I roads on July 1 had 7,266, an increase of 414 compared with the same date last year; the Pullman Company had 5,245, an increase of 111 compared with July 1, 1940.

#### Handling Carload Shipments in West

The Interstate Commerce Commission in an order by Commissioner Aitchison has postponed from August 20 to October 8 the effective date of its recent decision requiring the cancellation of suspended schedules whereby the railroads were undertaking to meet the requirements of the commission's findings in the Freight Forwarding Investigation. The commission's decision was reviewed in the *Railway Age* of July 26, page 168.

#### Exhibition of R.R. Paintings

"A one-man show" of paintings of railway subjects will be held at the Kohn Gallery, 608 Fifth Avenue, New York, from September 15 to October 10—the

artist being the well-known Peter Helck. The accompanying illustration is a black-and-white reproduction of one of the paintings. The subjects go back to early history (Mr. Helck having gone to the New York's World's Fair for his "living models") and continue into contemporary times, as indicated by the illustration shown here. Admission to the exhibition (9:30 to 5 weekdays and 'til 1 on Saturdays) will be free of charge.

#### Six Months Crossing Accidents

In the first six months of 1941, 880 persons lost their lives in accidents at highway-railroad grade crossings, according to the Safety Section of the Association of American Railroads. This was the greatest number of fatalities in the corresponding period in any year since 1931, when there were 921 fatalities.

The total number of fatalities in the first six months of 1941 was an increase of four compared with the same period of 1940 and an increase of 200 compared with the same period in 1939.

Persons injured in highway-railroad grade crossing accidents in the first six months of 1941 totaled 2,213, an increase of 36 compared with the same period in 1940 and an increase of 367 compared with the same period in 1939.

#### July Export Traffic

Cars of export freight, other than grain, unloaded at Atlantic, Gulf and Pacific ports in July totaled 54,982 cars, according to the Association of American Railroads. This is the highest number of cars unloaded in any one month since the Association began compiling statistics in November, 1939; in July, 1940, there were 49,781 cars unloaded. Cars of grain for export unloaded in July this year at these ports totaled 6,273 compared with 2,260 in the same month last year.

"No congestion or delay to traffic exists at any of the Atlantic, Gulf or Pacific ports, due to the cooperation of steamship lines, port authorities, exporters and shippers," the A. A. R. statement said, adding that "notwithstanding the heavy movement of export traffic through the North At-



"Giants at Rest"

Re: Me

lantic ports, there is ample railroad storage facilities at all ports."

### I. C. C. Refuses to Reconsider Decatur, Ill., Switching Decision

The Interstate Commerce Commission has denied petitions for a reconsideration of the proceedings involving railroad services covered by line-haul rates at the Decatur, Ill., plant of the A. E. Staley Manufacturing Company. In its report on further hearing, reviewed in the *Railway Age* of May 24, page 954, the commission refused to permit the proposed cancellation of a \$2.50-per-car charge for spotting within the plant at various locations beyond tracks which were found to be convenient points for receipt and delivery of Staley traffic.

Reconsideration was sought in a motion filed by Staley, and in petitions of the Illinois Central and the Wabash. The situation was among those covered in Part II of the commission's Ex Parte 104 investigation of practices affecting operating revenues and expenses, while the proposal to cancel the switching charge was docketed as I. & S. No. 4736.

### Grain Proportionals Not Applicable on Ex-Barge Traffic

Railroads have been authorized by the Interstate Commerce Commission, Division 2, to cancel the application of reshipping or proportional interstate rail rates on grain from Chicago, Peoria, Ill., St. Louis, Mo., and other related grain rate-break points to Eastern destinations when that traffic arrives at the rate-break points by boat or barge on rates not subject to the commission's jurisdiction. Among the protestants to the railroad proposal which the commission has thus found justified was the Federal Barge Lines, operated by the government-owned Inland Waterways Corporation.

The majority report, representing the views of Commissioners Aitchison and Splawn, concluded that the proportional rates in issue "have never been applicable on this barge traffic moving on unfiled rates." Commissioner Alldredge dissented. The proceeding was I. & S. Docket No. 4718.

### Wheat Movement Checked in the Pacific Northwest

At the request of the grain trade, the Car Service division has placed restrictions on shipments of wheat to Seattle and other Washington terminal and milling centers, as well as to Portland, Ore., and Astoria. The restrictions are similar to those in effect in many places in the Midwestern territory and affect storage grain entirely.

R. E. Clark, assistant to the chairman of the Car Service division, Washington, D. C., and formerly district manager at Seattle, announced the restricted movement and explained as follows:

"This is a defense measure. We cannot permit cars needed for defense traffic to be used as wheat warehouses. The normal movement of grain is not affected, as there is no ban on grain that is sold and can be moved. The government is in full accord with the plan and Northwest

millers and grain interests have requested the embargo."

The wheat crop in the state of Washington is double its normal size this year. The elevators in Washington have a capacity of 8,460,000 bushels, and are filled to the limit. At Lind, Wash., one of the centers of wheat-growing in the state, more than 100,000 bushels of wheat are already piled on the ground because of lack of storage space.

### Loading Charges at St. Louis Stockyards

Dismissing the complaint of the Baltimore & Ohio, Cleveland, Cincinnati, Chicago & St. Louis, New York, Chicago & St. Louis and Pennsylvania, the Interstate Commerce Commission has found that loading and unloading charges at the public stockyards of the St. Louis National Stockyards Company are not unreasonable. The proceeding, docketed as No. 27737, arose after the charges were increased in November, 1935, from \$1 per car to \$1.25 per single-deck car, and \$1.50 per double-deck car.

While the case was pending, the commission's Ex Parte 127 investigation of the status of public stockyard companies came along, bringing about a change in the set-up at St. Louis. Thus the present report's finding that the assailed charges were assessed by the St. Louis National Stockyards Company from November 10, 1935, until May 31, 1940; and by the East St. Louis Junction Railroad Company since that date.

### New Defense Highway Bill

The Senate committee on post offices and post roads has ordered a favorable report on S. 1840, the national-defense highway bill introduced by Senator McKellar of Tennessee for himself and Senator Hayden of Arizona as a substitute for S. 1580 which was vetoed by President Roosevelt. The President's veto was sustained by the House after the Senate had voted to override it.

S. 1840, as explained by Senator McKellar, who is chairman of the committee on post offices and post roads, embodies changes from S. 1580 whereby it is believed "the new bill substantially complies with every objection raised in the veto message." One of the President's principal objections was based on the requirements with respect to the apportionment of the funds. Those provisions have been altered in the new bill which, like its predecessor, carries authorizations of \$125,000,000 for the correction of deficiencies in highways regarded as strategic critical from the national-defense standpoint.

### A. A. R. Plans Another Open Meeting at Chicago, November 12 and 13

The Association of American Railroads is planning another open annual meeting to be held on November 12 and 13 at the Stevens Hotel in Chicago. The practice of having such open sessions was inaugurated with last year's member-road meeting in New York.

While the plans for this year's meeting are still in the formative stage, the program in general will follow the pattern of the

New York sessions. In other words there will be a luncheon on the first day, at which Defense Transportation Commissioner Ralph Budd is expected to be the speaker; and a dinner session addressed by Chairman Joseph B. Eastman of the Interstate Commerce Commission. Also, as was the case in New York last year, the National Industrial Traffic League and the Railway Business Association will be meeting in Chicago at the same time. Programs of the three meetings will again be co-ordinated, with the NIT League holding a luncheon on November 13, and the R. B. A. dinner scheduled for that evening.

### Pullman Employee Rewarded for Money-Saving Idea

A suggestion which, it is estimated, may save the Pullman Company \$3,000 a year, made by Harry F. Green, an electrical repair man employed in the Pullman yards in Boston, Mass., was rewarded on August 7 when the latter was presented with a check for \$300 by F. R. Callahan, superintendent of yards at Chicago, who made a special trip to Boston for the ceremony. The presentation was made on the observation car platform of the New York, New Haven & Hartford's all-Pullman "Merchants Limited" as it lay over in the yards near South station.

Since the Pullman Company inaugurated its employee suggestion system last March, some 800 suggestions, designed to benefit the company through savings and efficiency, have brought rewards to employees. The check for Mr. Green was the largest single award made since the suggestion system was introduced. Employed by the Pullman Company since May 21, 1928, he suggested that electrical record cards, showing the number and type of electrical repairs made to each car, henceforth be changed quarterly instead of once a month as at present. The suggestion will be put in effect January 1, 1942.

### Kendall Calls for Accurate Car Surplus and Shortage Data

Because of the "interest displayed by the general public and by governmental authorities in the ability of the railroads to successfully meet increasing demands for transportation," W. C. Kendall, chairman of the Car Service Division, has requested all transportation officers to see that "unusual care" is exercised in the compilation of the weekly CS-44 report showing average daily freight car surpluses and shortages. Mr. Kendall pointed out how the report has wide distribution, adding that it is therefore important "that no information be included that does not represent a fair appraisal of the actual situation without distortion or exaggeration."

Stating that his plea for accurate data applies "both to surpluses and shortages," the Car Service Division chairman goes on to make several specific suggestions to aid those who compile the reports. "In the past," Mr. Kendall explained, "numerous instances have occurred where reports of alleged car shortages have proved upon investigation to be inaccurately compiled. . . . It is intended that the report should accurately show as surplus all cars avail-

able in excess of current or intended loading and as shortage all cases where the railroad industry has actually failed to furnish cars to shippers within a reasonable time after the date on which they were ordered placed and goods offered for transportation were thereby denied proper service."

### Freight Car Loading

Loadings of revenue freight for the week ended August 9 totaled 878,549 cars, the Association of American Railroads announced on August 14. This was a decrease of 4,516 cars, or 0.5 per cent, below the preceding week, but an increase of 151,476 cars, or 20.8 per cent, above the corresponding week last year and an increase of 217,526 cars, or 32.9 per cent, above the comparable 1939 week.

As reported in last week's issue, loadings of revenue freight for the week ended August 2 totaled 883,065 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

#### Revenue Freight Car Loading

For Week Ended Saturday, August 2			
Districts	1941	1940	1939
Eastern	181,785	146,226	133,798
Allegheny	193,173	153,964	125,579
Pocahontas	58,379	50,274	48,596
Southern	120,762	97,448	94,212
Northwestern	143,161	120,250	109,995
Central Western	128,315	104,917	100,443
Southwestern	57,490	44,848	43,930
Total Western	328,966	270,015	254,368
Total All Roads	883,065	717,927	656,553
Commodities			
Grain and grain products	46,142	40,690	42,270
Live stock	9,759	9,116	11,158
Coal	166,144	122,716	111,206
Coke	13,132	10,657	6,725
Forest products	50,644	36,610	31,933
Ore	77,228	68,547	44,890
Merchandise l.c.l.	155,724	150,286	154,657
Miscellaneous	364,292	279,305	253,714
August 2	883,065	717,927	656,553
July 26	897,399	718,038	655,531
July 19	899,370	730,460	651,665
July 12	876,165	736,783	669,888
July 5	740,493	637,169	555,152
Cumulative Total, 31 Weeks	24,142,920	20,454,912	18,452,589

*In Canada.*—Carloadings for the week ended August 2 totaled 63,144, as compared with 63,188 in the previous week and 53,261 in the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars	Rec'd from Loaded	Connections
Aug. 2, 1941	63,144	30,737	
July 26, 1941	63,188	30,727	
July 19, 1941	62,867	30,401	
Aug. 3, 1940	53,261	22,448	
Cumulative Totals for Canada:			
Aug. 2, 1941	1,807,005	907,470	
Aug. 3, 1940	1,574,119	753,647	
Aug. 5, 1939	1,345,111	631,828	

### Price Commissars Ask Lower Rates on Iron Steel to West Coast

An application for lower rail rates on iron and steel moving to the Pacific coast for defense use will soon be filed with the Transcontinental Freight Bureau at Chicago by the Office of Price Administration and Civilian Supply in behalf of the Office of Production Management, the Army, the Navy and other federal defense agencies. A conference was held at Chicago on Au-

gust 7, to determine the reaction of the southern, eastern and western railroads to suggestions made by Dr. G. Floyd Wilson, traffic director of the OPACS, and by certain industries. Dr. Wilson submitted several proposed scales of rates, some of which will be lower than existing transcontinental tariffs. They would, however, continue to reflect present relationships within the transcontinental rate structure as it applies to iron and steel shipments. No specific proposal for lower rates was made and until the application is filed the railroads will not be in a position to know how far the government proposes to go.

Dr. Wilson suggested that the government agencies would be agreeable to a higher minimum carload weight than now prevails, provided a "more reasonable" scale could be established. He suggested a new minimum of 80,000 lb. for iron and

steel instead of the present 40,000 and 60,000 lb. minimums. "On such a basis," he said, "there should be little reduction in the revenue per car."

Several weeks ago the railroads rejected a government proposal for a blanket rate of 90 cents per 100 lb. on iron and steel moving from all points east of the Mississippi river to the Pacific coast. Present rates per 100 lb. are \$1.05 from Mississippi river points, \$1.10 from Chicago and Birmingham, Ala., \$1.27 from Pittsburgh, Pa., and \$1.42 from Sparrows Point, Md.

### May's Net Income Was \$43,137,083

Class I railroads reported for May a net income after fixed charges of \$43,137,083 as compared with \$4,147,202 in May, 1940, according to the Interstate Commerce Commission's monthly compilation of selected income and balance sheet

### SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 132 Reports (Form IBS) Representing 137 Steam Railways  
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways			
	For the month of May		For the five months of	
	1941	1940	1941	1940
1. Net railway operating income	\$88,630,031	\$47,408,235	\$342,702,126	\$197,432,329
2. Other income	11,113,383	11,571,524	53,796,864	56,359,132
3. Total income	99,743,414	58,979,759	396,498,990	253,791,461
4. Miscellaneous deductions from income	2,757,512	2,470,877	14,159,258	12,919,040
5. Income available for fixed charges	96,985,902	56,508,882	382,339,732	240,872,421
6. Fixed charges:				
6-01. Rent for leased roads and equipment	13,846,453	11,859,397	64,298,307	55,269,453
6-02. Interest deductions <sup>1</sup>	37,878,026	38,407,800	188,019,933	191,856,705
6-03. Other deductions	119,163	128,703	593,308	647,514
6-04. Total fixed charges	51,843,642	50,395,900	252,911,548	247,773,672
7. Income after fixed charges	45,142,260	6,112,982	129,428,184	*6,901,251
8. Contingent charges	2,005,172	1,965,780	9,992,569	9,831,597
9. Net income	43,137,083	4,147,202	119,435,615	*16,732,848
10. Depreciation (Way and structures and equipment)	18,049,393	17,161,806	89,080,038	84,925,930
11. Federal income taxes	13,792,409	4,070,969	44,906,910	15,824,520
12. Dividend appropriations:				
12-01. On common stock	17,985,325	17,813,463	39,669,541	40,415,732
12-02. On preferred stock	6,022,597	3,962,660	11,231,673	9,228,076
Ratio of income to fixed charges (item 5 ÷ 6-04)	1.87	1.12	1.51	.97

### All Class I Railways

Selected Asset and Liability Items	All Class I Railways	
	Balance at end of May	
	1941	1940
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	\$561,975,907	\$604,472,421
14. Cash	712,415,133	\$478,908,656
15. Temporary cash investments	91,458,363	61,242,591
16. Special deposits	103,713,120	147,602,845
17. Loans and bills receivable	1,412,870	2,070,233
18. Traffic and car-service balances—Dr.	29,049,167	23,886,051
19. Net balance receivable from agents and conductors	67,170,403	46,800,324
20. Miscellaneous accounts receivable	143,305,645	120,402,103
21. Materials and supplies	373,492,070	359,982,261
22. Interest and dividends receivable	20,795,559	23,889,633
23. Rents receivable	1,330,538	1,548,230
24. Other current assets	7,284,527	5,494,381
25. Total current assets (items 14 to 24)	1,551,427,395	1,271,827,308
26. Funded debt maturing within 6 months <sup>2</sup>	\$72,029,386	\$168,097,433
27. Loans and bills payable <sup>3</sup>	\$77,199,336	\$135,422,929
28. Traffic and car-service balances—Cr.	48,964,299	40,160,066
29. Audited accounts and wages payable	265,325,216	239,978,371
30. Miscellaneous accounts payable	49,786,061	60,763,869
31. Interest matured unpaid	31,418,319	25,666,560
32. Dividends matured unpaid	1,632,991	1,491,946
33. Unmatured interest accrued	88,947,887	93,624,890
34. Unmatured dividends declared	36,226,925	27,211,244
35. Unmatured rents accrued	30,582,708	30,956,787
36. Accrued tax liability	242,627,438	195,381,828
37. Other current liabilities	36,766,183	100,157,318
38. Total current liabilities (items 27 to 37)	909,477,363	950,815,808
39. Analysis of accrued tax liability:		
39-01. U. S. Government taxes	127,248,179	76,651,380
39-02. Other than U. S. Government taxes	115,379,259	118,730,448

\* Deficit or other reverse items.

<sup>1</sup> Represents accruals, including the amount in default.

<sup>2</sup> Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

<sup>3</sup> Includes obligations which mature not more than 2 years after date of issue.

## NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of Railway	Net income after depreciation		Net income before depreciation	
	For the five months of		For the five months of	
	1941	1940	1941	1940
Alton	* \$241,055	* \$1,045,509	* \$127,092	* \$337,277
Atchison, Topeka & Santa Fe <sup>4</sup>	5,340,633	* 2,277,805	10,402,336	2,652,166
Atlantic Coast Line	4,719,977	* 281,567	5,705,581	570,414
Baltimore & Ohio	5,885,617	* 2,030,007	9,013,596	960,338
Boston & Maine	2,488,930	* 384,639	3,080,888	220,454
Central of Georgia <sup>2</sup>	161,318	* 926,378	521,818	* 570,474
Central of New Jersey <sup>2</sup>	* 902,149	* 1,516,851	* 352,500	* 932,060
Chesapeake & Ohio	11,164,570	13,357,019	14,735,324	16,870,588
Chicago & Eastern Illinois	684,942	* 839,040	942,432	586,898
Chicago & North Western <sup>3</sup>	* 1,396,059	* 6,514,090	614,964	* 4,453,604
Chicago, Burlington & Quincy	2,622,359	* 1,362,510	4,933,886	816,044
Chicago Great Western	481,745	* 475,131	717,609	* 241,259
Chicago, Milwaukee, St. Paul & Pacific <sup>2</sup>	* 33,790	* 6,369,252	2,490,310	* 3,905,405
Chicago, Rock Island & Pacific <sup>2</sup>	579,596	* 4,564,732	2,398,469	* 2,846,781
Chicago, St. Paul, Minneapolis & Omaha	* 722,749	* 1,420,495	* 498,425	* 1,183,870
Delaware & Hudson	1,016,941	345,227	1,494,420	784,583
Delaware, Lackawanna & Western	1,342,909	* 490,343	2,373,810	520,357
Denver & Rio Grande Western <sup>2</sup>	* 2,133,409	* 2,567,481	* 1,586,653	* 2,048,436
Elgin, Joliet & Eastern	2,386,009	815,584	2,899,297	1,211,823
Erie (including Chicago & Erie) <sup>3</sup>	2,538,543	* 1,664,476	4,080,044	* 150,916
Grand Trunk Western	1,012,274	101,543	1,499,164	596,314
Great Northern	1,009,337	* 1,583,714	2,810,679	* 48,285
Illinois Central	4,200,340	* 1,127,212	6,994,878	1,528,400
Lehigh Valley	1,243,141	738,730	2,077,533	132,296
Long Island	* 630,111	* 1,145,520	21,038	* 658,553
Louisville & Nashville	5,671,488	2,866,842	7,525,382	4,675,248
Minneapolis, St. Paul & Sault Ste. Marie <sup>2</sup>	* 2,808,792	* 2,605,665	* 2,276,477	* 2,094,859
Missouri-Kansas-Texas	* 926,002	* 1,692,997	* 445,072	* 1,194,008
Missouri Pacific <sup>2</sup>	* 1,044,139	* 5,567,031	833,175	* 4,084,719
New York Central <sup>5</sup>	8,987,121	* 1,381,079	16,557,897	5,245,449
New York, Chicago & St. Louis	3,414,835	546,439	4,107,334	1,208,203
New York, New Haven & Hartford <sup>2</sup>	1,352,397	* 2,717,437	2,737,255	* 1,341,854
Norfolk & Western	11,093,051	12,926,889	13,854,505	15,509,902
Northern Pacific	* 307,991	* 2,046,205	1,179,876	* 645,567
Pennsylvania	13,619,350	10,042,148	25,439,407	21,209,555
Pere Marquette	1,494,982	587,889	2,457,932	1,541,603
Pittsburgh & Lake Erie	2,207,793	1,270,592	3,208,752	2,182,167
Reading	3,583,937	1,855,038	4,850,327	3,151,000
St. Louis-San Francisco <sup>2</sup>	* 1,191,624	* 4,858,403	61,298	* 3,590,091
St. Louis, San Francisco & Texas	* 17,681	* 183,861	* 17,681	* 185,722
St. Louis Southwestern <sup>2</sup>	1,512,639	* 238,269	1,784,916	26,091
Seaboard Air Line <sup>1</sup>	498,729	* 1,737,345	1,512,612	* 769,006
Southern	5,772,223	468,143	7,326,662	1,938,419
Southern Pacific <sup>6</sup>	9,665,981	* 4,569,606	13,026,321	* 1,261,487
Texas & Pacific	1,104,211	412,442	1,632,281	917,260
Union Pacific (including leased lines)	3,368,660	2,495,433	6,758,599	5,650,727
Wabash <sup>1</sup>	633,761	* 1,884,767	1,538,229	* 985,849
Yazoo & Mississippi Valley	271,526	69,347	499,358	131,625

<sup>1</sup> Deficit.<sup>2</sup> Report of receiver or receivers.<sup>3</sup> Report of trustee or trustees.<sup>4</sup> Under trusteeship, Erie only.<sup>5</sup> Includes Atchison, Topeka & Santa Fe, Gulf, Colorado & Santa Fe, and Panhandle & Santa Fe.<sup>6</sup> Includes Boston & Albany, lessor to New York Central.

<sup>7</sup> Includes Southern Pacific, Texas & New Orleans, and leased lines. The report contains the following information: "Figures reported above for Southern Pacific Transportation System exclude offsetting debits and credits for interest on funded securities and rentals for leased properties between companies included therein. Operations for 1941 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico, not included in above statement, resulted in a net loss of \$155,508 for the month and \$1,094,694 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by S. P. Co., and, therefore, not included in the 1941 income results for the System reported above. The combined results for 1941 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding S. P. R. Co. of Mexico) amounted to a net income of \$3,326,468 for the month and \$9,217,421 for the period. Figures herein given exclude results of Southern Pacific Railroad Company of Mexico for the reason that policy was adopted January 1, 1940 of making no further advances to that company, it being required to conduct its operations entirely within its own resources."

items. The year's first five months showed a net income of \$119,435,615 as compared with a net deficit of \$16,732,848 for the first five months of 1940.

The roads not in receivership or trusteeship had a net income of \$42,516,822 for May as compared with \$14,629,347 for the same month of last year; while the net income for the first five months of this year was \$124,868,506 as contrasted with \$32,570,251 for the same period last year.

Ninety-two roads reported net incomes for May, while 37 reported net deficits; in May, 1940, there were 62 net incomes and 67 net deficits. For the first five months of this year 91 reported net incomes and 38 reported net deficits, as compared, respectively, with 57 net incomes and 72 net deficits in the first five months of 1940.

The consolidated statement for all Class I roads and that showing net incomes or

deficits of "large steam railways" are given in the accompanying tables.

## Contracts for Protective Services

The Interstate Commerce Commission, Division 3, has made public its report in the Ex Parte 137 investigation of contracts covering protective services, which were brought under the commission's jurisdiction by the Transportation Act of 1940. The report, which is regarded as a first step toward the establishment of uniformity in principle with respect to charges and accounting for the protective services, passes upon 188 contracts filed by railroads and express companies.

Six of the contracts were approved; 85 are to be approved prior to October 1, 1941, (the statutory time limit for such action) provided the carriers submit immediately terminating supplements thereto,

effective June 30, 1942, and submit by January 1, 1942, new contracts stated on the so-called unit price basis to become effective July 1, 1942. Nine of the contracts are to be given further consideration before October 1, and the remaining 88, relating to the purchase of ice, were found to be outside the scope of the proceeding.

So-called unit-price contracts are those calling for compensation per unit of service rendered by car lines or others for the account of the carriers. In this connection the commission is adhering to its previously-expressed view that protective-service arrangements should contemplate retention by the carriers of all tariff charges, and uniform contracts with respect to compensation provisions. That, said the report, appears to be the effect of the unit-price contract.

The majority of the contracts filed in the proceeding were for dual services relating to the furnishing of cars as well as the furnishing of protective services. The report deals only with the latter, and suggests that the commission would like to have the new contracts filed by January 1, 1942, effective July 1, 1942, separated as between these two services. Matters relating to compensation for the use of refrigerator cars, the report explained, "will be reserved for another proceeding."

## Ickes Sounds Another Alarm on Possible Coal Shortage

"Coal transportation facilities continue to be tight, and provide little margin of safety to absorb the shock of any substantial extra burden or emergency," said an August 11 statement from Secretary of the Interior Ickes, who had just been told by the Bituminous Coal Division that "there is still cause for serious concern over the possibilities that emergencies may occur that might cause consumers' coal shortages." Available, serviceable coal cars increased only approximately 5 per cent between September 30, 1940, and June 30, 1941, the Interior Department press release went on, adding that "daily average surplus coal car statistics indicate that from approximately 97 to 98 per cent of the present coal car supply is now in use."

Pointing out that coal is now being produced at the rate of approximately 10,600,000 tons weekly, the statement lists several factors which might possibly call for an increase to 11,000,000 or 12,000,000 tons during some periods. "If a production peak of such size should continue for any substantial length of time," Mr. Ickes thinks it would be "reasonable to believe that in view of the already tight transportation situation a serious coal transportation problem may be presented." Nevertheless, "there have been no serious coal car shortages at the mines to date according to the carriers."

Meanwhile, the Coal Division is keeping a close watch on two situations—movements of lake-cargo coal to the lower lake ports, and "tidewater" shipments via coastwise vessels from Hampton Roads, Va., to New England ports. The lag in both of these movements, the statement points out, still reflects the suspension of mining operations as a result of last April's strike. Shipments to the Great Lakes



No one knows what the future demands on the railroads are going to be. We do know that the increase in traffic due to the defense program is much heavier than anticipated. With this in mind railroads throughout the country are placing orders now with the Lima Locomotive Works in preparation for future demands.

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO



ports "are approximately 21 per cent lower than they were at the same time last year, despite the heavy increase in production." Tidewater shipments to New England "are approximately the same as last year at the same time, despite the estimated increased requirements."

On August 12, the day after Secretary Ickes' statement was issued, Luther Harr, Bituminous Coal Consumers' Counsel, followed through with another plea urging consumers to buy and store coal now. "This country," Mr. Harr said, "can avert a shortage of bituminous coal only if consumers, large and small, move quickly to buy and store the fuel they will need this winter."

#### Cartoons Inculcate Courtesy

Even if an employee had no interest at all in doing his job better, he would gladly spend a few minutes going through the Milwaukee's booklet "What Do You Do About People?"—merely because of the entertainment it affords. There are ten points made in the booklet—each of them being illustrated with a humorous cartoon of the same general character as the sample reproduced herewith. Under each sketch is a short text—that under the accompanying picture reading as follows:

"You have all heard a group of men discussing the firms for which they worked. Some were crabs and habitual knockers—nothing was right. Others always spoke well of their company; praised its officers and their fellow workers; said they were glad to work there.

"How did it affect you? Didn't you respect these latter men because they respected themselves and their employers? The man who says 'they don't know how to railroad' on the neighboring X. Y. & Z. division of his own railroad doesn't know how to railroad himself. He may know the 'book of rules' but he doesn't know the unwritten rule of *loyalty*.

"People are more likely to believe what a man says 'off the record.' That's why it pays to speak well of your company *always*. You never know what effect you may have on your listeners, what good will or what traffic you may create just through

casual talk. You are a member of the Milwaukee Road family, so *speak well of the family whenever you get the opportunity*."

The ten illustrations—which have an interest-value arising entirely from their humor, independent of their more serious purpose—succeed (with the brief and clever text which accompanies each picture) in inculcating the following lessons:

1. How to get along with other people, avoiding friction.
2. Seeing inquiries from the patron's point of view.
3. Being courteous on the telephone.
4. Getting a "kick" out of satisfying the customer who is hard to please.
5. Trying to create a good impression on every customer.
6. Making the patron feel that his patronage is genuinely appreciated.
7. A simple technique for remembering people's names.
8. Getting in a good word for the railroad in after hours' contacts.
9. Not letting outsiders hear employees quarreling with each other.
10. Giving a pleasant earful to Mr. Big Ear (as shown in the accompanying picture).

The text accompanying the cartoons measures up fully to the high standard of the drawings themselves.

#### St. Lawrence Seaway Will Go Into Rivers and Harbors Bill

Meeting the request of President Roosevelt, the House committee on rivers and harbors on August 8 voted 17 to 8 to include the St. Lawrence seaway and power project in the omnibus rivers and harbors authorizations bill which is now being prepared for introduction about the middle of September. At the same time the committee also voted 14 to 10 to include the Florida Ship Canal with a provision authorizing the President to impose tolls to cover operating and maintenance expenses and amortization.

Official estimates on the St. Lawrence have placed the cost to the United States of work now contemplated at \$285,000,000, while the estimated cost of completing the

Florida Ship Canal is \$198,000,000. Already approved for the forthcoming omnibus bill in which those two projects are now to be included are projects estimated to cost a total of \$281,872,650. The larger items included in the latter figure were listed in the *Railway Age* of May 10, page 819, the largest being the proposed Tennessee-Tombigbee Waterway, estimated to cost \$66,000,000. Meanwhile, it is expected that other projects will be added before the bill is finally completed.

The President's action requesting the inclusion of the St. Lawrence in the omnibus bill is interpreted generally as indicating a line of Administration strategy calculated to improve the project's chances for Congressional approval. In other words it might become the beneficiary of log-rolling tactics, thereby winning the support of members interested in other projects lumped with it in the bill. President Roosevelt's request was embodied in a letter to Chairman Mansfield of the House committee on rivers and harbors, reading as follows:

"You know how I had counted upon getting the St. Lawrence project started this year in order to get power as soon as possible for the defense program. I have come to the conclusion that the best way to expedite the matter is to include it as one of the projects in the rivers and harbors bill.

"I think you and I agree about the bill and the general view that should govern these authorizations in the present emergency. Some of the projects, notably the St. Lawrence, are needed immediately. Others will serve in the post-war reconstruction period. There is no reason why both groups should not be included in the present bill with the understanding that when it comes to appropriations the defense needs will be controlling.

"I will appreciate it if you can find a way to have the St. Lawrence project included in the rivers and harbors bill."

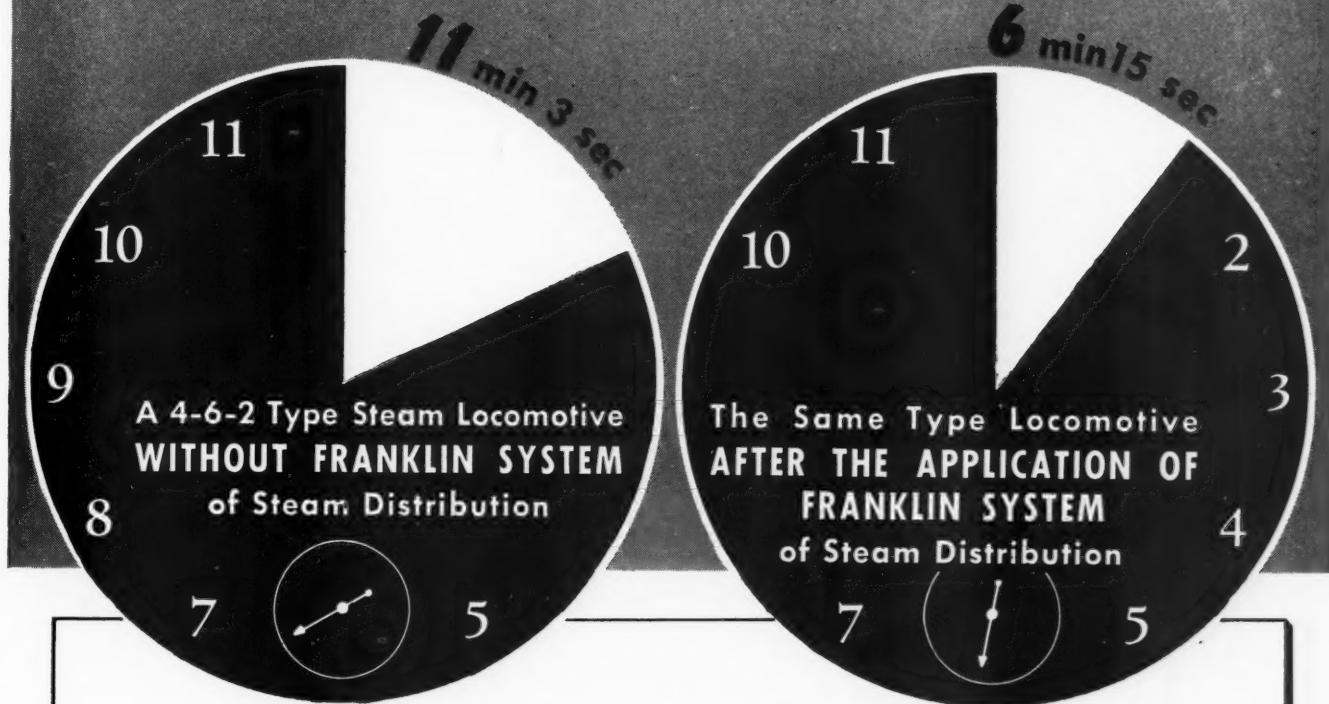
#### Labor Expected to Seek New Benefits from Unemployment Fund

Railroads are expected shortly to renew their efforts to obtain a reduction in the three per cent payroll tax paid entirely by the carriers for the support of Railroad Unemployment Insurance Act benefits, but their renewed efforts are likely to meet the opposition of railroad labor which is understood to be thinking about further liberalization of the Act's benefit provisions. A previous railroad effort to obtain relief failed within the past year when Congress adopted liberalizing amendments favored by labor, rejecting a compromise proposal which would have provided more moderate increases in the benefits while at the same time reducing the tax.

The size of the unemployment insurance fund prompted last year's moves in the foregoing connection, experience having indicated that the three per cent tax is bringing in much more than has been found necessary to support the benefits called for in the act. As of the close of the latest fiscal year ended June 30, 1941, the Unemployment Insurance Fund totaled \$189,747,000, only \$17,699,000 in benefit payments having been certified during the



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year. Labor's representative on the Railroad Retirement Board—L. M. Eddy—is on record with his view that labor's social program "is still incomplete." Mr. Eddy spoke in that connection at the recent Denver, Colo., convention of the Brotherhood of Locomotive Firemen & Enginemen, mentioning workmen's compensation and sickness and accident insurance as necessary to make the set-up a "well rounded" one.

A plan for workmen's compensation, Mr. Eddy pointed out, has been embodied in a bill prepared by Senator Wagner of New York, and now before the Retirement Board for study. He also referred to the recently-adopted Senate Resolution 128 which directs the Board to conduct an investigation of the incidence of injuries among railroad employees, and of the social and economic consequences thereof. "Such an investigation," Mr. Eddy said, "should produce material of real value to the development and structure of a plan for federal workmen's compensation adaptable to the railroad industry;" while "sickness and accident relief follows in general sequence. . . ." The Board's present organization, he went on, provides "the basic foundation upon which to build the additional service for the administration of both workmen's compensation and a plan to dispense relief in cases of sickness and accident."

With respect to Railroad Retirement Act benefits, Mr. Eddy suggested that there might well be some liberalization of the provisions covering retirement for disability and joint and survivor annuities. He pointed out, however, that taxes supporting Retirement Act benefits were based on an average annual payroll of \$2,200,000,000; and thus far the payroll has been under that figure. "If that condition continues," Mr. Eddy added, "tax rates will probably have to be increased."

#### Study Rearrangement of Passenger Service to Provide Cars for Military Forces

Rearrangement of passenger service to release cars for the military forces is being studied by the railroads of the country. These studies follow a recommendation made by the Association of American Railroads that member lines eliminate duplicate passenger service and discontinue all unnecessary trains as a means of conserving equipment to handle record troop movements and civilian travel. The Association's recommendation followed a warning from Ralph Budd, transportation commissioner of the Advisory Commission to the Council of National Defense, to the effect that the carriers are confronted with the necessity of taking this action if they are to cope successfully with prospective passenger traffic.

The seriousness of the passenger car situation is reflected in the increasing movement of troops, which is expected to reach a peak in 1942. During the first six months of 1941, 1,452,303 men were moved by the railroads. Of that number 859,290 were handled on 2,861 special trains and 593,013 were handled on regular trains. By 1942, it is expected, the number of men to be transported will be two

or three times as large. In the southeast alone, 300 baggage cars, 800 coaches and 1,250 sleeping cars have been in use to meet the travel requirements of the 350,000 soldiers stationed in that section of the country. By 1942 it is expected that the number of soldiers will be increased to 1,400,000.

In the western territory the major services to be studied are Chicago-Florida, Chicago-Twin Cities, Chicago-St. Louis, Chicago-Pacific Coast, and Chicago-Kansas City. Of these, the Chicago-Florida service was discussed by officers of the railroads making up the four routes at a meeting at Chicago on August 8. These railroads will complete a plan before the end of the month whereby the service performed by 13 trains during the winter season can be rendered by a smaller number. Estimates as to the possible reduction in trains under the plan being considered vary from three to six trains. Studies to determine to what extent other trains in the west can be eliminated will be undertaken soon.

Among the western roads that are taking prompt action in this direction is the Illinois Central, which has already announced sweeping readjustments of passenger train schedules and equipment, to be made on August 17. One result will be to release for special movements, such as the carrying of troops, 51 additional passenger-train cars—more than enough equipment for three full troop-trains daily.

A further change will involve the separation of passenger business and the mail and express business through the establishment of a special passenger mail and express train between Chicago and Carbondale, Ill. Largely relieving train No. 3, The Louisi-

ane, this change will make possible the speeding-up of No. 3's schedule by nearly two hours between Chicago and New Orleans, La., the new time being 23 hours 35 minutes. Other Chicago-New Orleans schedules will be improved to lesser degrees. Other changes on this road will include the pooling of cars between separate runs for more efficient use, the discontinuance of the handling of passengers on so-called "mixed" trains and the abolition of schedules on which dwindling patronage no longer justifies the retention of cars.

#### Form Reorganization Committee for National Railways of Mexico

A committee composed of the secretaries of the Department of Communications and Public Works, the Treasury Department and the general secretary of the Union of Railway Employees has been established in Mexico City, D. F., to reorganize the National Railways of Mexico. A plan to establish a military organization for the railways as part of Mexico's program for the defense of the American continent has been sent to Avila Camacho, president of Mexico.

#### 1,820-Mile Pipe-Line System Planned

A plan for "the longest single pipe-line system in the world"—an 1,820-mile system which will pour 250,000 barrels of crude oil daily into the New York-Philadelphia area—has been submitted to Defense Petroleum Co-ordinator Harold L. Ickes by 11 large oil companies. While the plan contemplates an immediate start on the new network and its probable com-

\* \* \*



Merchandising on a Railroad Theme

The R. H. White Company department store, Boston, Mass., has featured railroad travel in one of its summer window displays. To advertise travel clothes and luggage, the store created a replica of a New York, New Haven & Hartford rural station and platform, the front of a 1400-class steam locomotive and other representative features. The rail-bed across the foreground is real, complete with trap rock, creosoted ties, tie plates, spikes and 107-lb. rail. It was installed in the window by New Haven section hands.

Continued on next left-hand page



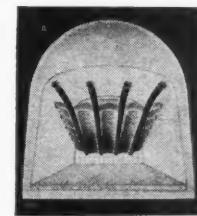
# **“Tailor Made” YET STANDARDIZED!**

Each Security Arch is “tailor made” to suit the individual class of power in which it must function. But so effectively is Security Arch Brick standardized that only six different Security Brick patterns are needed for more than 50% of the Security Arch Brick used.

This high standardization reflects the engineering and experience of the American Arch Company.

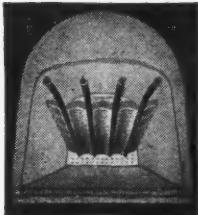
It simplifies the application of the brick arch and saves the stores department a vast amount of trouble.

This foresight of the American Arch Company in adhering to standards is but one of the many ways in which the American Arch Company is serving the railroads.



*There's More to  
SECURITY ARCHES  
Than Just Brick*

**HARBISON-WALKER  
REFRACTORIES CO.**  
***Refractory Specialists***



**AMERICAN ARCH CO.  
INCORPORATED**  
60 EAST 42nd STREET, NEW YORK, N. Y.  
***Locomotive Combustion  
Specialists***

pletion within nine months, the Interior Department announcement said that "its effect on the East's oil supplies will not be felt soon enough to be a factor in solving the immediate petroleum problem caused by the deficiency in transportation facilities."

The following companies, the co-ordinator was informed, have prepared a draft of a formal agreement, to become effective upon the taking of certain necessary Federal action, proposing the creation of a jointly-owned, privately financed \$80,000,000 pipeline corporation to be called National Defense Pipelines, Inc., and a second and smaller corporation to be known as Emergency Pipelines, Inc.: Standard Oil Company of New Jersey, Consolidated Oil Corporation, Sun Oil Company, Atlantic Refining Company, Cities Service Company, Socony-Vacuum Oil Company, Inc., Tide Water Associated Oil Company, Texas Corporation, Shell Oil Company, Inc., Gulf Oil Corporation, and Pan-American Petroleum & Transport Company. The proposed agreement provides that any others who may desire to participate may do so within three months after formal execution of the agreement upon the same terms and conditions as those who have thus far tentatively committed themselves.

The plan for National Defense Pipelines, Inc., contemplates the construction, operation, and maintenance by it of the following facilities for the transportation of crude oil:

1. A 22-in. pipe line originating west of Shreveport, La., near the Texas border, extending in a northeasterly direction to near Salem, Ill.; distance approximately 490 mi.

2. A 16-in. connecting line from Salem to Wood River, Ill., to tap existing facilities carrying oil from Oklahoma, Kansas, Texas, Mid-Continent, and Illinois areas; distance about 65 mi.

3. A 24-in. pipeline from the junction of the first two lines near Salem to be constructed to the so-called New York and Philadelphia areas, with branches to refining centers; distance to New York harbor about 1,200 miles.

4. Necessary tank farms, tankage, pumping stations, and equipment to deliver an aggregate of 250,000 barrels of oil daily to terminal points at Bayonne, N. J., and Philadelphia.

Emergency Pipelines, Inc., would construct, operate, and maintain a 22-in. pipe line originating at a point in the east Texas oil field and extending northeasterly to near Shreveport, where it will connect with the line to be constructed by National Defense Pipelines, Inc.; distance about 65 miles.

Petroleum Co-ordinator Ickes pointed out that one of the first steps which would have to be taken in order to permit the companies to effectuate their agreement would be the issuance by the President of a proclamation declaring the necessity of the proposed pipe lines for national defense purposes, setting forth terms and conditions under which they shall be constructed and operated, and granting the corporations the right to exercise the right of eminent domain in accordance with the recently-enacted Cole Pipe Line Act.

## Equipment and Supplies

### LOCOMOTIVES

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has ordered two 44-ton Diesel-electric switching locomotives from the General Electric Company.

THE UNITED STATES ARMY, Raritan arsenal, has ordered one 45-ton Diesel-electric locomotive from the General Electric Company.

THE UNITED STATES ARMY, Iowa Ordnance plant, has ordered two 44-ton Diesel-electric locomotives from the General Electric Company.

THE BELT RAILWAY OF CHICAGO has ordered one 1,000-hp. Diesel-electric locomotive from the American Locomotive Company. This road has also received delivery of one 660-hp. Diesel-electric locomotive from the same company which it will place in immediate service.

### FREIGHT CARS

THE UNITED STATES ARMY, Engineering Department, has placed an order for dump cars costing \$12,193 with the Western-Austin Company of Aurora, Ill.

THE UNITED STATES ARMY, Engineering Department, has ordered 500 tank cars from the General American Transportation Corporation at cost of \$1,287,000.

THE E. I. DU PONT DE NEMOURS COMPANY has placed an order for 100 tank cars of 11,000 gal. capacity with the American Car & Foundry Co.

THE UNITED STATES WAR DEPARTMENT has ordered 29 40-ton fire-control cars from the Greenville Steel Car Company. The inquiry for this equipment was reported in the *Railway Age* of June 21.

### PASSENGER CARS

THE UNITED STATES WAR DEPARTMENT placed an order for two hospital cars with the Haffner-Thrall Car Company earlier this year, which cars were not previously reported by the *Railway Age*.

### IRON AND STEEL

THE PANAMA RAILROAD has placed an order for rails and track materials costing \$241,939 with the Darby Products of Steel Plate Corporation, Kansas City, Kan.

### SIGNALING

THE UNION SWITCH & SIGNAL CO. is supplying ten sets of three-indication cab signal equipment with two-speed control for application to eight Diesel-electric locomotives being built for the Atlantic Coast Line and two Diesel-electric locomotives for the Florida East Coast. These locomotives are to be furnished with composite equipment for intermittent train control when operating over these two

roads and for continuous automatic train control operation over the Richmond, Fredericksburg & Potomac between Washington, D. C., and Richmond, Va.

### MOTOR VEHICLES

THE SOUTHEASTERN GREYHOUND LINES has ordered 25 motor coaches from the a. c. f. Motors Company.

THE SANTA FE TRAILWAYS have ordered 40 motor coaches from the a. c. f. Motors Company.

## Construction

BALTIMORE & OHIO.—The Baltimore & Ohio in Pennsylvania has applied to the Interstate Commerce Commission for authority to construct an 8.3-mi. branch line in Somerset County, Pa.—from a point near Coleman Station on the Somerset and Cambria Branch to a proposed coal development of the Cambria Fuel Company.

CHESAPEAKE & OHIO.—This company has awarded a contract to Haley, Chisholm & Morris, Inc., of Charlottesville, Va., for the construction of additional track facilities at Ashland, Ky., at estimated cost of \$185,900.

CHESAPEAKE & OHIO.—This company has awarded contracts to H. C. Jordan, Norfolk, Va., and C. E. Nuckles, Richmond, Va., for additions and alterations to warehouses at Norfolk at estimated cost of \$75,000.

CHICAGO, ROCK ISLAND & PACIFIC.—Contracts have been awarded for the construction of 14.82 miles of main line between Mill Grove, Mo., and Mercer Hill, known as the Mercer Hill grade revision. The new line, which lies east of the present location, diverging from the old line as much as three miles, will pass through the southeast corner of Princeton, Mo., instead of the western edge as at present. It will have a maximum grade of 0.5 per cent for both eastbound and westbound traffic, as compared to a maximum grade of 1.575 per cent, and an effective grade of 0.94 per cent eastbound on the old line. It will reduce the distance by 1.27 miles. The old line had 17 curves with a maximum curvature of 6 deg. and a prevailing curvature of 3 deg. The new line will have 7 curves, with a maximum curvature of 1 deg. 30 min. and a prevailing curvature of 1 deg.

The contract for the grading, which will total approximately 2,300,000 cu. yd., of which about 450,000 cu. yd. will be rock, has been awarded Condon & Kiewit, Omaha, Neb. The contract for the bridge work and construction of the reinforced concrete culverts has been awarded Alexander & Repass, Des Moines, Ia. Included in the bridge work will be a new bridge over the Grand river two miles north of Mill Grove, which will consist of a 200-ft. deck riveted truss span and two 90-ft. deck plate girder spans on concrete piers found-

*Continued on next left-hand page*

# *Increases* in Boiler Efficiency

**8%-10% increase in flue evaporating surface.**

**2%- 5% increase in the total flue gas area.**

**20%-30% increase in superheating capacity.**

• • •

These percentages show the increase in efficiency of the small flue boiler and superheater as compared with a boiler of equal dimensions, but equipped with a superheater of the large flue design.

Remember these advantages when you are considering new power and specify small flue boilers with Elesco Type "E" superheaters.



A-1434

SUPERHEATERS • FEEDWATER HEATERS  
AMERICAN THROTTLES • STEAM DRYERS  
EXHAUST STEAM INJECTORS • PYROMETERS

THE  
**SUPERHEATER**  
C O M P A N Y

Representative of  
AMERICAN THROTTLE COMPANY, INC.  
60 East 42nd Street • NEW YORK  
122 S. Michigan Avenue • CHICAGO

Montreal, Canada  
THE SUPERHEATER COMPANY, LTD.

ed on rock and concrete abutments supported on steel monotube piling. A bridge over Wildcat Creek and U. S. Highway No. 65 will consist of one 90-ft., one 70-ft. and three 57-ft. deck plate girder spans on concrete piers and abutments. Another bridge over Wildcat Creek will consist of one 80-ft. deck plate girder span and two 40-ft. I-beam spans on concrete piers and abutments. The bridge work also includes the construction of six timber overhead highway bridges and nine reinforced concrete box culverts.

**PENNSYLVANIA-READING.**—The Pennsylvania Public Utility Commission has approved plans calling for the elimination or alteration of several grade crossings in the borough of Dauphin, in connection with a general plan of improvement for this section. The proposed improvement provides for the construction of a new main highway, to replace part of the present state highway route No. 1, so located as to occupy the present site of the tracks and right-of-way of the Pennsylvania for almost the entire length of the improvement, which begins at a point on state highway Route No. 1 in Middle Paxton township, and extends a distance of 1.76 miles through the borough of Dauphin, to rejoin the state highway. The plan also provides for the removal of the existing tracks and other facilities of the Pennsylvania, and for their construction in a new location for a distance of 1.69 miles, situated partly along the site formerly occupied by the abandoned Pennsylvania canal. The plan provides for the elimination of the several grade crossings and new station facilities for both the P. R. R. and the Reading. The total estimated cost is \$876,866.

**SOUTHERN PACIFIC.**—The Bureau of Reclamation of the Department of the Interior has awarded a contract amounting to \$125,550 to J. P. Brennan, Redding, Cal., for the construction of concrete walls and paving to protect pedestals of the new Sacramento River bridge near Redding on the relocated route. Six pedestals on each side of the river will be protected by 24-in. concrete walls and 6-in. concrete paving. The work involves the placing of 2,310 cu. yd. of concrete in the walls and 1,460 cu. yd. of concrete in the paving. In addition, 175 tons of reinforcing bars will be used.

**TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.**—A contract has been awarded the Ross & White Co., Chicago, for four locomotive sanding towers, equipment for a sanding plant and a coaling pocket to be installed at St. Louis, Mo.

**WABASH.**—The State Highway Department of Missouri has awarded a contract amounting to approximately \$62,370 for the construction of a highway bridge over the Wabash tracks in St. Louis County, Mo. The bridge will consist of two 30-ft. and three 20-ft. reinforced concrete slab spans supported on reinforced concrete pile bents, except the two bents adjacent to the tracks which will be of reinforced concrete open type construction. The bridge will provide a 57-ft. roadway and one 5-ft. sidewalk.

## Supply Trade

**Joseph L. Bisesi**, former special research associate in engineering materials for the University of Illinois, has been appointed research and test engineer by the Waugh Laboratories, a division of the **Waugh Equipment Company**.

**William J. McIlvane** has been appointed general manager of sales of the Copperweld division of the **Copperweld Steel Company**, succeeding **Robert J. Frank**. Mr. McIlvane was formerly eastern district manager and later sales promotion manager. Mr. Frank will continue as a vice-president and director of the company.

**A. Christianson** has joined the staff of the **O. C. Duryea Corporation** as assistant to the president with headquarters at the company's office in Chicago. Mr. Christianson was formerly chief engineer of the Standard Steel Car Company and recently consulting engineer of the Pullman-Standard Car Manufacturing Company.

**R. C. Alley** has been appointed transportation specialist for the **General Electric Company** in the St. Louis, Mo., territory, in charge of apparatus sales to railroads and urban transit companies. He succeeds the late **O. E. Turner**. Mr. Alley graduated from Louisiana State University in 1928 with a degree in electrical engineering. He entered the test course of the General Electric Company that same year, and in 1930 transferred to the transportation control engineering department at Erie, Pa., where he remained until his current promotion.

## OBITUARY

**Joel S. Coffin, Jr.**, president and founder of the J. S. Coffin, Jr., Company of Englewood, N. J., died August 8 of pneumonia at his summer home in Franconia, N. H. He was 50 years of age. Mr. Coffin was born in Waukesha, Wis. His father, the late Joel S. Coffin, Sr., was a leader in the railroad supply and equipment industry and, before his death five years ago, was chairman of the board of the Franklin Railway Supply Company of New York. His brother, C. W. Floyd Coffin, is now vice-president of that company.

J. S. Coffin, Jr., graduated from Culver Military Academy and attended Stevens Institute of Technology. He entered the railway supply manufacturing business immediately thereafter and, in association with his father, organized the Franklin Railway Supply Company, Ltd., of Canada, in 1918. At the time of his death he was president of that company and had also recently formed the C.-S. Engineering Company of Englewood, a research organization for the development of railroad products. Mr. Coffin was a former director of the Lima Locomotive Works, Franklin Railway Supply Company of New York, and the Citizens National Bank and Trust Co. of Englewood.

## Financial

**ATCHISON, TOPEKA & SANTA FE—Equipment Trust Certificates.**—This road has applied to the Interstate Commerce Commission for authority to issue \$20,000,000 of equipment trust certificates, Series E to be sold through competitive bidding at not less than par and accrued dividends at a rate to be stated in the bid. Proceeds will finance in part the acquisition of equipment estimated to cost \$25,000,000, including 3,975 freight cars, sixteen 5,400-h.p. Diesel-electric freight locomotives and four 1,350 h.p. Diesel-electric freight locomotive sections, and 59 lightweight passenger-train cars. The certificates will mature serially over a 10-year period—\$2,000,000 on each September 10 from 1942 to 1951.

**ATLANTIC COAST LINE-LOUISVILLE & NASHVILLE—Equipment Trust Certificates of the Clinchfield.**—These companies have been authorized by Division 4 of the Interstate Commerce Commission to assume liability for \$1,720,000 of 1 3/4 per cent serial equipment trust certificates of the Clinchfield, maturing in 10 equal annual installments of \$172,000 on August 15 in each of the years from 1942 to 1951, inclusive. The issue has been sold at 100.125 to Halsey, Stuart & Co., Inc., acting on behalf of itself and associates, making the average annual cost to the company approximately 1.72 per cent.

**BALTIMORE & OHIO—Operation.**—This road has applied to the Interstate Commerce Commission for authority to operate an 8.3-mile line which the Baltimore & Ohio in Pennsylvania, in the same application, seeks authority to build for the purpose of serving a new coal development in Somerset County, Pa.

**BALTIMORE & OHIO—Abandonment by Confluence & Oakland.**—The Interstate Commerce Commission in a seven-to-three decision has affirmed Division 4's report of last March, permitting the Confluence & Oakland to abandon and the Baltimore & Ohio to abandon operation of the former's 19.8-mile line between Confluence & Oakland Junction, Pa., and Kendall, Md. The occasion for the abandonment is the proposed construction by the federal government of flood-control works which will inundate a large part of the line. Instead of relocating the line the War Department decided to exercise its option to purchase that portion actually required for reservoir purposes. The case came before the full commission upon petitions for reconsideration filed by the Public Service Commission of Maryland and the McCullough Coal Company, the latter being the line's principal shipper whom abandonment will deprive of a rail outlet. Commissioner Eastman wrote the dissenting opinion with which Commissioners Rogers and Patterson agreed. He pointed out that the line has been operating at a profit; and asserted that the majority had no authority to decide the case the way it did, leaving the coal company without recourse which it might have if the War Department were forced to resort to condemnation proceedings with

the possibility of being required to relocate the line. The majority, too, had expressed sympathy for the plight of the coal company, but it saw its duty in the affirmation of Division 4's decision.

**BOSTON & MAINE.** — *Abandonments.* — This road has filed with the Interstate Commerce Commission application for authority to abandon a nine-mile line between Pepperell, Mass., and a point about one mile southwest of Nashua (N. H.) Union Station; and a six-mile line between Squannacook Junction, Mass., and Pepperell.

**CHARLES CITY WESTERN.** — *Securities.* — Division 4 of the Interstate Commerce Commission, acting on this company's request, has modified its order in Finance Docket No. 13313 by the revocation of the authority granted therein to this company to issue its promissory note for \$20,000 to the First Security Bank & Trust Company of Charles City, Iowa, and to pledge, when extended, \$50,000 of its first mortgage bonds as collateral security therefor.

**CHICAGO, AURORA & ELGIN.** — *Equipment Trust.* — This road has applied to the Interstate Commerce Commission for approval of a plan whereby it would lease 10 interurban rail-motor cars which would become its property after the payment of rent for 41 months. The cars would be built by the St. Louis Car Company and delivered to the applicant upon payment of \$90,000 under a trustee agreement executed with the La Salle National Bank of Chicago. Thereafter the rentals, with unmatured balances bearing interest at four per cent, would be \$6,500 a month for 12 months and \$8,000 a month for 29 months—total consideration, \$400,000.

**COEUR D'ALENE & PEND D'OREILLE.** — *Abandonment.* — This road has applied to the Interstate Commerce Commission for authority to abandon an 11.6-mile line between Corbin Junction, Idaho, and Bayview, operation of the line having been abandoned in January, 1939.

**DETROIT, TOLEDO & Ironton.** — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized this road to abandon a seven-mile branch line extending from Jeffersonville, Ohio, to Madison.

**ERIE.** — *Abandonment.* — The Susquehanna Connecting has been authorized by Division 4 of the Interstate Commerce Commission to abandon its line extending from Hillside Junction, Pa., to Old Forge, 2.3 miles. At the same time Division 4 has authorized the New York, Susquehanna & Western to abandon its Jermyn No. 2 Breaker branch extending from a connection with the Susquehanna Connecting at Old Forge, 1.5 miles, and its Dolph branch, extending from a connection with the line of the Moosic Mountain & Carbondale, 0.9 mile, near Old Forge, Pa. In the same decision, Division 4 also permitted the Erie to abandon operation of the abovementioned lines, a total of 4.7 miles.

**EVANSVILLE SUBURBAN & NEWBURGH.** — *Abandonment.* — This road has been authorized by the Interstate Commerce Com-

mission, Division 4, to abandon a 5.5 mile line extending from the crossing of the highway known as Slaughter avenue or Division street easterly to the end of the line at Plum street in Newburgh, Ind.

**GREAT NORTHERN.** — *Abandonment.* — Finding that the line involved is an industrial track within the meaning of section 1(22) of the Interstate Commerce Act, the Interstate Commerce Commission, Division 4, has dismissed for want of jurisdiction this road's application for authority to abandon its so-called High Line, extending from survey station 60 plus 00, west of Republic, Wash., to Knob Hill, 4.5 miles.

**ILLINOIS CENTRAL-MISSOURI PACIFIC.** — *Operation.* — These roads have been authorized by the Interstate Commerce Commission, Division 4, to operate under contract the 12.8-mile line of the Jefferson Southwestern in Jefferson County, Ill. The contract provides for the payment of \$2.50 for each loaded car handled over the Jefferson Southwestern tracks, but the aggregate of I. C. and M. P. payments during any full year are not to exceed \$15,000.

**LOUISIANA SOUTHERN.** — *Bonds.* — This road has applied to the Interstate Commerce Commission for authority to further extend from September 1, 1941, until September 1, 1951, the maturity date of the remaining \$200,000 of its four per cent first mortgage gold bonds, dated September 1, 1911.

**OREGON SHORT LINE-NORTHERN PACIFIC.** — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized abandonment by the Oregon Short Line and abandonment of operation by the N. P. of a 1.5-mile line in Silver Bow County, Mont., "extending from survey station 2991 plus 84.7 southeasterly, easterly and northerly to survey station 2915 plus 21."

**SOUTHERN PACIFIC.** — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized this road to abandon that portion of its so-called Success branch, extending from Success, Calif., to Clavicle, 5.8 miles.

**STOCKYARDS.** — *Acquisition.* — The Stockyards Railway Company, which has been recently formed, has asked the Interstate Commerce Commission for authority to acquire by lease and operate the railroad properties of the St. Paul Union Stockyards Company.

#### Average Prices of Stocks and Bonds

	Aug. 12	Last week	Last year
Average price of 20 representative railway stocks..	30.35	30.33	27.98
Average price of 20 representative railway bonds..	65.23	65.86	57.16

**THE ILLINOIS CENTRAL'S "GREEN DIAMOND."** — has just won its fifth "service stripe." On its head and rear ends the Chicago-St. Louis streamliner carries five gold stars, one for each year's service. During this period, it has traversed more than a million miles in doubling the 294-mile trip daily.

## Railway Officers

### EXECUTIVE

**J. N. Haines**, general manager of the Lehigh Valley, with headquarters at Bethlehem, Pa., has been appointed executive assistant to president, with headquarters at New York and Bethlehem, Pa.

**David McK. Ford**, general purchasing agent of the Canadian National, with headquarters at Montreal, Que., has been appointed vice-president in charge of purchases and stores, succeeding **R. C. Vaughan**, whose election as president and



David McK. Ford

chief executive officer was reported in the *Railway Age* of July 26. **Edwin A. Bromley**, assistant to the vice-president, purchases, stores and steamships, succeeds Mr. Ford as general purchasing agent.

Mr. Ford was born in Glasgow, Scotland, and first entered railway service with the North British railway in 1900 as a clerk in the general goods manager's office. Three years later he became associated with the Caledonian railway as a clerk in the district superintendent's office. In April, 1905, he went to Canada and entered the employ of the Canadian Northern at Toronto, Ont., as a clerk, leaving in July of the same year to become chief clerk in the operating and accounting department of the Halifax & Yarmouth at Yarmouth, N. S. In December, 1905, he went to the Halifax & South Western as chief clerk in the auditing and accounting department at Bridgewater, N. S. In July, 1910, he returned to the Canadian Northern Express Company as auditor and cashier at Quebec and in February, 1916, was appointed auditor, Quebec lines of the Canadian Northern. Mr. Ford was appointed accountant, eastern lands department of the Canadian National in September, 1916, and in November, 1918, became chief clerk in the president's office, Canadian National railways and Canadian Government Merchant Marine, which position he held until 1922, when he was appointed office assistant to the president. Upon the formation of the present Canadian National in 1923,

# 20 in Service



# 15 More On Order



Cylinders (4) . . . . .	20½ x 32 ins.
Diameter Driving Wheels . . . . .	69 ins.
Boiler Pressure . . . . .	285 lb.
Weight on Drivers . . . . .	406,500 lb.
Weight of Engine . . . . .	597,000 lb.
Tractive Power . . . . .	94,400 lb.

# HIGH POWERED Articulated Freight Locomotives

on

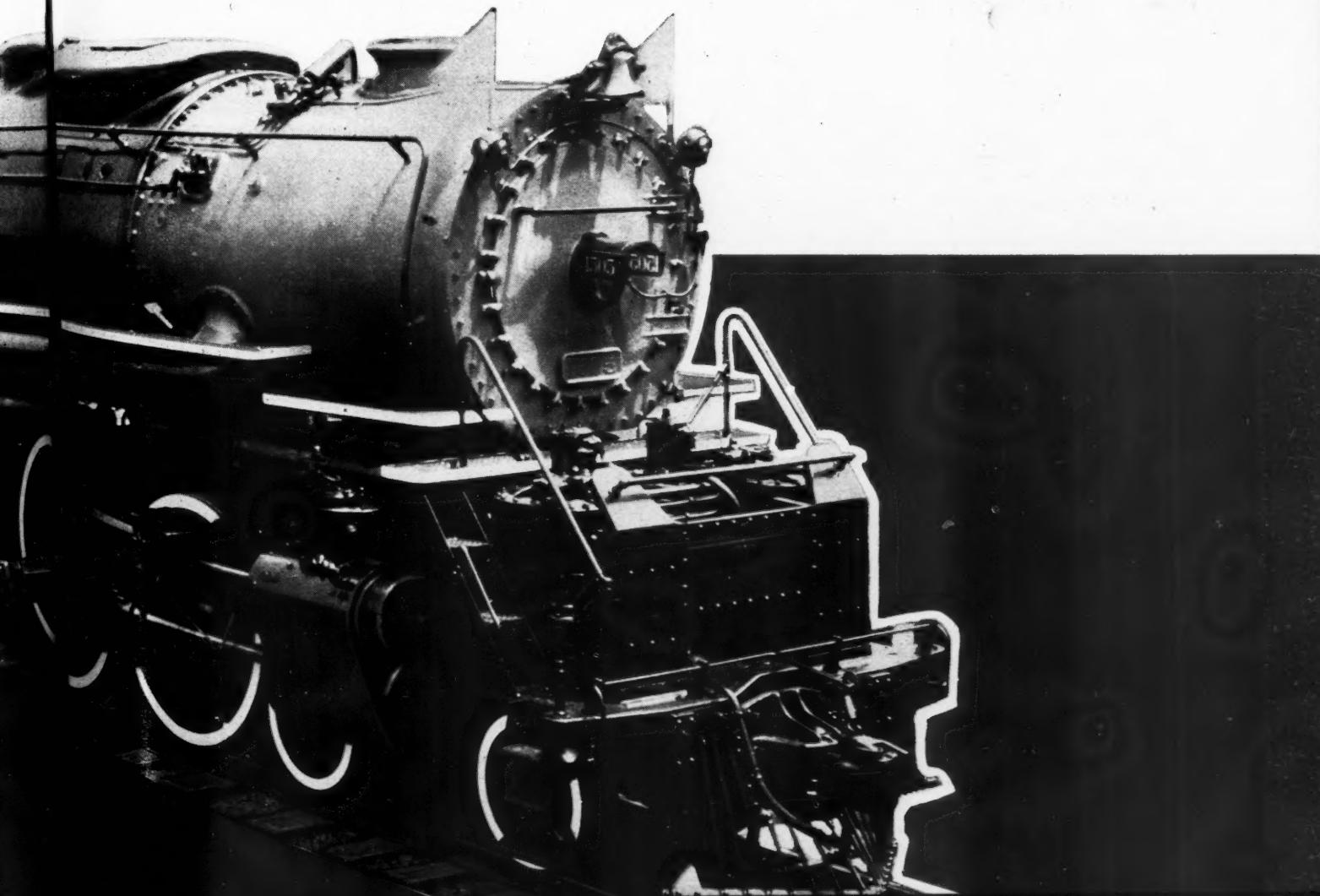
"The  
D&H,"

JUST one year ago the Delaware and Hudson Railroad accepted delivery of 20 modern high-powered Alco locomotives. As a result of the unusual economies effected, the railroad has ordered 15 more. With 35 modern, high-speed, heavy tonnage engines in operation, the Delaware and Hudson will be prepared to meet all shippers' transportation needs with fast and most efficient service.

**AMERICAN LOCOMOTIVE COMPANY**

30 CHURCH STREET

NEW YORK, N. Y.



Mr. Ford was appointed assistant to the director of purchases and supplies and in 1924 he was appointed assistant to vice-president of purchases and stores, becoming general purchasing agent in February, 1937.

Mr. Bromley entered the service of the Canadian National in 1918 as junior clerk



Edwin A. Bromley

in the president's office at Toronto, Ont., and became a stenographer in the purchasing and stores department two years later. After serving as stenographer and secretary to the director of the department, Mr. Bromley was appointed office assistant to the vice-president of purchases and stores of the system in 1929. On February 1, 1930, he was promoted to general stationery agent, becoming assistant to the vice-president in February, 1937.

#### FINANCIAL, LEGAL AND ACCOUNTING

**G. C. Brooks**, chief joint facility accountant of the Canadian Pacific, with headquarters at Montreal, Que., has been promoted to auditor of joint facilities.

**Harold B. Ramsey**, attorney for the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed general attorney, with headquarters at Minneapolis, Minn., a newly created position.

**W. B. Pope** has been appointed assistant treasurer, Seaboard Air Line, with headquarters at Portsmouth, Va., succeeding **R. C. Pearson**, whose death on June 23 was reported in the *Railway Age* of June 28.

**Glenn Van Aken** has been appointed general counsel of the Chicago, Attica & Southern, with headquarters at Indianapolis, Ind., succeeding **George M. Barnard**, who resigned to accept an appointment as a commissioner on the Public Service Commission of Indiana.

#### OPERATING

**O. L. Gray**, superintendent of the Albuquerque division of the Atchison, Topeka & Santa Fe, with headquarters at Winslow, Ariz., has been promoted to assistant general manager on the Coast lines, with headquarters at Los Angeles, Cal., a newly created position. **E. B.**

**Hebert**, trainmaster on the Valley division at Fresno, Cal., has been promoted to superintendent at Winslow, succeeding Mr. Gray, and **A. K. Johnson**, transportation inspector at Los Angeles, has been advanced to trainmaster at Fresno, relieving Mr. Hebert. **F. B. Grim**, trainmaster on the Los Angeles division, has been promoted to assistant superintendent of that division, with headquarters at San Bernardino, Cal., a newly created position, and **S. G. Jackson**, yardmaster at Los Angeles, has been advanced to trainmaster, replacing Mr. Grim. **E. E. Foulks**, assistant superintendent at Prescott, Ariz., has been transferred to Winslow and **H. G. Wood**, trainmaster at Winslow, has been transferred to Prescott. **H. C. Baughn**, trainmaster at Needles, Cal., has been transferred to Winslow, succeeding Mr. Wood, and **R. E. Knapp**, trainmaster at La Junta, Colo., has been transferred to Needles, relieving Mr. Baughn.

**W. B. Anderson**, auditor of the Ashley, Drew & Northern, has been appointed also assistant manager, with headquarters as before at Crossett, Ark.

**Carl W. Baker**, trainmaster on the Lehigh Valley, with headquarters at Buffalo, N. Y., has been appointed assistant superintendent of the Wyoming division, with headquarters at Wilkes-Barre, Pa.

**G. P. Neal**, signal inspector on the Chicago & Eastern Illinois, has been promoted to superintendent of telegraph and signals, with headquarters at Danville, Ill., succeeding **Harry Hardin Orr**, whose promotion to assistant to the president, with headquarters at Chicago, was reported in the *Railway Age* of July 5.

**M. G. McInnes**, whose promotion to assistant general manager of the Western district of the Erie, with headquarters at Youngstown, Ohio, was reported in the *Railway Age* of July 19, was born at Boston, Mass., on March 17, 1905, and attended Dartmouth College. He entered railway service on July 1, 1930, as a clerk on the Erie at New York and the following year was appointed foreman at Jer-



M. G. McInnes

sey City, N. J. In November, 1933, he was promoted to yardmaster at Hornell, N. Y., and in May, 1934, he was advanced to general yardmaster at Corning, N. Y. Mr.

McInnes was transferred to Hornell in April, 1935, and in March, 1936, he was appointed chief clerk to the superintendent of transportation at Cleveland, Ohio. In July, 1937, he was advanced to trainmaster at Youngstown, Ohio, and in February, 1938, he was transferred to Marion, Ohio. In June, 1939, he was appointed chief trainmaster at Youngstown, Ohio, and five months later he was promoted to assistant superintendent, with headquarters at Chicago. Mr. McInnes was advanced to superintendent of the Buffalo and Rochester divisions, with headquarters at Buffalo, N. Y., in March, 1940, which position he held until his recent promotion.

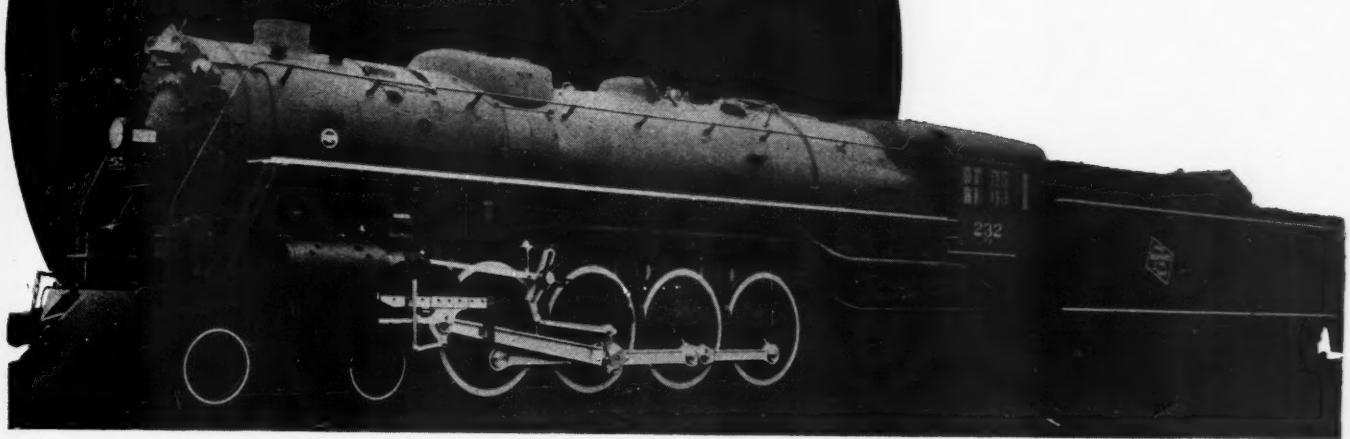
**Mark C. Williams**, whose promotion to general superintendent of the Northwestern district of the Union Pacific, with headquarters at Portland, Ore., was reported in the *Railway Age* of August 2, was born at Delaware, Ohio, on August 29, 1882, and studied civil engineering from 1903 to 1906 at the University of Denver and the University of Colorado. He entered railroad service in 1901 as a rodman on surveys for the construction of the Denver & Salt Lake. He returned to railroad service in October, 1906, as a draftsman for the Oregon-Washington Railroad & Navigation Co. (now part of the Union Pacific) and was later advanced successively to transitman, locating engineer and resident engineer on location and construction work. On February 1, 1914, he was promoted to division engineer, with headquarters at Walla Walla, Wash., and on June 1, 1917, he was transferred to Portland. In August, 1927, Mr. Williams was appointed acting superintendent, with headquarters at Spokane, Wash., and on December 1, 1927, he was promoted to superintendent at that point. In October, 1937, he was transferred to the Oregon division, with headquarters at Portland, the position he held until his recent promotion.

**Ralph E. Titus**, whose promotion to general superintendent of the South-Central district of the Union Pacific, with headquarters at Salt Lake City, Utah, was reported in the *Railway Age* of August 2, was born at Reedsburg, Wis., on September 22, 1887. He entered railway service in June, 1903, as a telegraph operator on the Chicago & North Western and in July, 1906, went with the Union Pacific as a telegraph operator. In 1909 he was advanced to dispatcher and in 1912 he was promoted to chief dispatcher. In 1917 Mr. Titus was advanced to trainmaster and on June 25, 1922, he was promoted to assistant superintendent on the Idaho division, with headquarters at Nampa, Idaho. From the latter part of 1931 to 1936, Mr. Titus served in other capacities, being appointed assistant superintendent at Pocatello, Idaho, in January, 1936, and a short time later being transferred to Nampa. In February, 1937, he was promoted to superintendent of the Utah division, with headquarters at Pocatello. This division was later discontinued, and Mr. Titus was appointed assistant superintendent on the Idaho division. In June, 1939, he was promoted to superintendent of the Idaho division, with headquarters at Pocatello,

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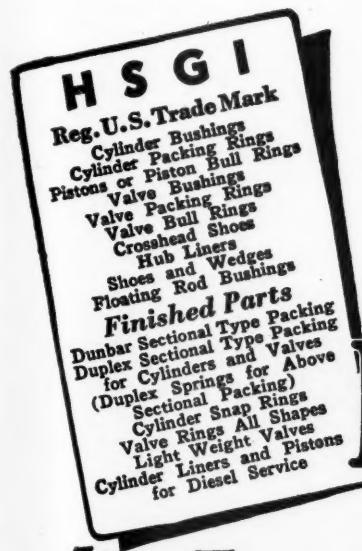


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# HUNT-SPILLER GUN IRON

August 16 1941

the position he held until his recent promotion.

**G. R. Haworth**, general superintendent of the Western Maryland, has been promoted to general manager, with headquar-



**G. R. Haworth**

ters as before at Baltimore, Md. The position of general superintendent has been abolished. Mr. Haworth was born at Philipsburg, Pa., on June 25, 1888, and entered railroad service in 1905 as rodman on the Centre & Clearfield. In 1906 he became rodman on the Buffalo & Susquehanna, and, in 1907, rodman on the Erie, the latter with headquarters at Hornell, N. Y. Later in 1907 he worked as levelman for the city surveyor in New York, and as recorder in the marine survey and dredging department at New York. In 1908 he returned to the Erie as concrete inspector at Cuba, N. Y. During 1909 Mr. Haworth was employed as foreman in the Pennsylvania state highway construction department, with headquarters at Pittsburgh, Pa., and as levelman on the Chicago, Burlington & Quincy. He was appointed transitman in 1910, in charge of a field party for the Chicago, Burlington & Quincy, and later in that year he was employed as surveyor for the United States Engineers. In 1911 he went with the Western Maryland, serving successively as instrumentman in West Virginia and resident engineer at Hagerstown, Md. He was transferred to Baltimore in 1912 and in 1914 he was employed as an engineer on the construction of the Johns Hopkins Engineering School. Later in the same year Mr. Haworth returned to the Western Maryland as resident engineer. In 1924 he was appointed division engineer in charge of maintenance and construction of that road, remaining in that position until 1936, when he became engineer maintenance of way at Baltimore. In May, 1940, Mr. Haworth was appointed general superintendent, the position he held until his recent appointment.

**Harold Arthur Sparks**, whose promotion to superintendent of the Stevens Point division of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Stevens Point, Wis., was reported in the *Railway Age* of August 2, was born at Helena, Mont., on April 12, 1891, and first entered railway service as a section laborer on the Northern Pacific during school

vacations, later serving, from 1908 to 1910, as a telegraph operator, cashier and agent. On September 27, 1910, he went with the Duluth, Missabe & Iron Range as a telegraph operator, cashier and relief agent and on March 4, 1914, he went with the Soo Line as a telegraph operator and station agent. On May 1, 1923, he was appointed general yardmaster in charge of ore operations on the Cuyuna range and on December 1, 1924, he was appointed assistant trainmaster, with headquarters at Superior, Wis., and Crosby, Minn. Mr. Sparks was promoted to trainmaster at Superior on November 30, 1928, and two years later he was transferred to Enderlin, N. D. On December 15, 1933, he was advanced to assistant superintendent, with headquarters at Gladstone, Mich., and on August 1, 1935, he was promoted to superintendent, with headquarters at Enderlin. On November 1, 1937, Mr. Sparks was appointed assistant superintendent,

road service in 1890 with the Columbus, Hocking Valley & Toledo (now Chesapeake & Ohio) and after filling several positions in the operating and accounting departments of that road, he became chief rate clerk in the passenger department in 1897. He went with the Southern in July, 1899, as division clerk, later serving as rate clerk, assistant chief rate clerk, chief rate clerk and chief clerk, becoming assistant general passenger agent at St. Louis in November, 1913. Mr. Westerman was transferred to Cincinnati in January, 1917, and to Washington in 1922, returning to Cincinnati in July, 1926. In April, 1931, he was appointed general passenger agent at Cincinnati, being transferred to Washington in October, 1931. Mr. Westerman was promoted to assistant passenger traffic manager on December 1, 1937, the position he held until his retirement.

**Walter K. Neal**, traveling agent for the Chicago, St. Paul, Minneapolis & Omaha at Spokane, Wash., has been promoted to general agent at that point, succeeding **Leo M. Kilburg**, deceased.

**W. F. Niemann**, executive rate clerk in the traffic department of the Missouri Pacific at St. Louis, Mo., has been promoted to assistant general freight agent at Little Rock, Ark., succeeding **H. D. Reaves**, deceased.

**W. M. Haensel** has been appointed assistant general freight agent of the Baltimore & Ohio, with headquarters at Cleveland, Ohio, succeeding **J. W. Phipps, Jr.**, whose promotion to general freight agent at Philadelphia was reported in the *Railway Age* of August 9.

**Willis Pierson Tuller**, whose promotion to general freight agent on the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., was reported in the *Railway Age* of July 26, was born at Minneapolis on September 8, 1903, and entered railway service on July 26, 1918, as an office boy in the



**Harold Arthur Sparks**

with headquarters at Fond du Lac, Wis., which position he held until his recent promotion, effective August 1.

#### TRAFFIC

**A. R. Howard** has been appointed agricultural agent of the Atlantic Coast Line, with headquarters at Jacksonville, Fla.

**William Petersen**, traffic manager of the Chicago, South Shore & South Bend, has been elected vice-president-traffic, with headquarters as before at Chicago.

**V. P. Brown**, commerce agent of the Great Northern at St. Paul, Minn., has been promoted to assistant general freight agent, with the same headquarters, a newly created position.

**M. J. O'Malley** has been appointed general agent for the Minneapolis, St. Paul & Sault Ste. Marie at Seattle, Wash., instead of Duluth, Minn., as incorrectly reported in the *Railway Age* of August 2.

**F. N. Westerman**, assistant passenger traffic manager of the Southern, with headquarters at Washington, D. C., retired on August 1, after over 50 years of railroad service, 42 of which have been with the Southern. Mr. Westerman entered rail-



**Willis Pierson Tuller**

freight traffic department of the Soo Line, later holding various other positions. In April, 1928, he was promoted to chief clerk to the vice-president in charge of traffic and in January, 1936, he was ad-

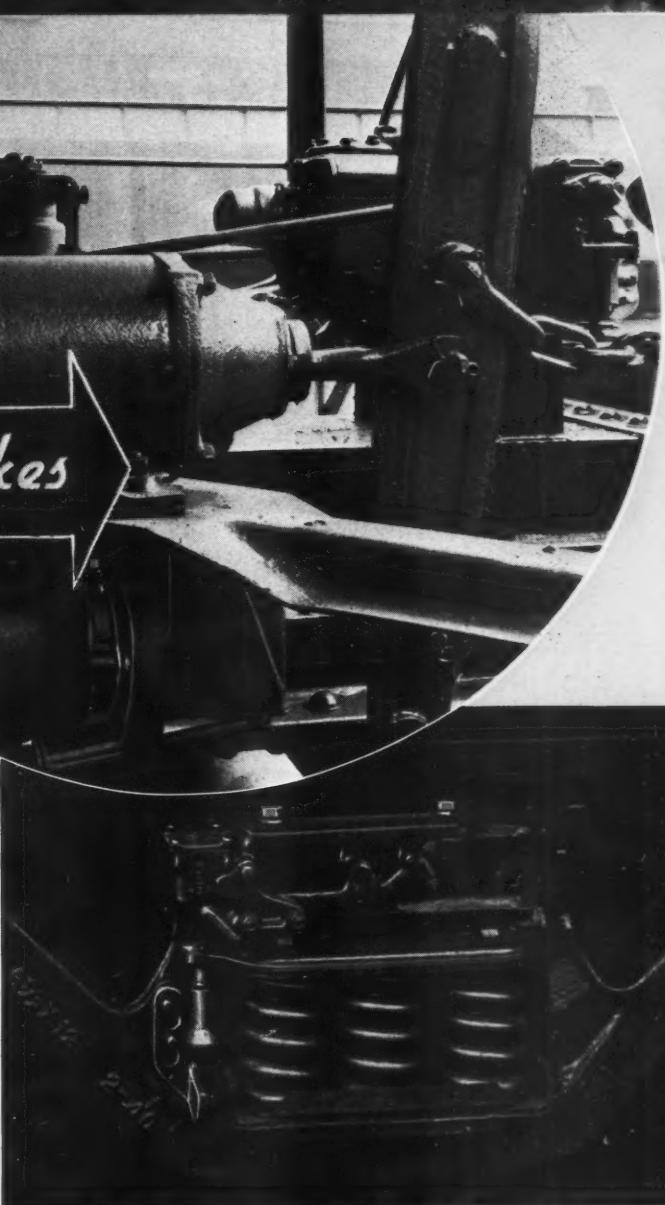
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vanced to assistant general freight agent, handling rates and commission cases. His appointment as general freight agent, in charge of rates, divisions and commerce work, was effective July 15.

The titles of **J. B. Lamson**, manager, commercial development, and **O. O. Wagnér**, assistant manager, commercial development, of the Chicago, Burlington & Quincy, have been changed to director-department of industry and agriculture and assistant director-department of industry and agriculture, respectively, with headquarters as before at Chicago.

**N. B. Fagan**, district freight agent, Pennsylvania, with headquarters at Altoona, Pa., has been appointed division freight agent at Camden, N. J. **K. G. Crowl** has been appointed district freight agent at New Haven, Conn., succeeding **Charles C. Kelsey**, who has been transferred to Trenton, N. J.

**E. Labrecque**, district freight agent, Canadian National-Grand Trunk, with headquarters at Quebec, Que., has been promoted to division freight agent, with the same headquarters. **W. E. Aubin** has been appointed district freight agent at Quebec, succeeding Mr. Labrecque.

#### ENGINEERING & SIGNALING

**R. A. Evans** has been appointed assistant purchasing agent of the Nevada Northern, with headquarters at East Ely, Nev., succeeding **H. A. Davidson**, deceased.

**W. G. Dyer**, roadmaster on the Canadian Pacific at Lanigan, Sask., has been promoted to division engineer, with headquarters at Moose Jaw, Sask., succeeding **H. R. Miles**, who has retired.

**Walter Anderson**, general signal inspector of the Southern Pacific, has been promoted to assistant signal engineer, with headquarters as before at San Francisco, Cal., and **H. B. Garrett**, signal supervisor on the Western division at West Oakland, Cal., has been advanced to general signal inspector, succeeding Mr. Anderson.

**A. P. Keppel** has been appointed signal supervisor of the Oregon division of the Union Pacific, with headquarters at Portland, Ore., and **C. A. Larson** has

been appointed signal supervisor of the Washington division, with headquarters at Spokane, Wash. **F. S. Krayenbuhl**, assistant signal supervisor at Glens Ferry, Idaho, has been promoted to signal supervisor of the Idaho division, with the same headquarters, succeeding **R. B. McArdle**, who has been transferred to the newly created Utah division, with headquarters at Salt Lake City, Utah.

#### MECHANICAL

**L. E. McCorkle**, assistant roundhouse foreman on the Norfolk & Western at Bluefield, W. Va., has been promoted to assistant master mechanic on the Scioto division at Portsmouth, Ohio.

The title of **Ray McBriar**, engineer of tests of the Denver & Rio Grande Western, has been changed to engineer of standards and research, with headquarters as before at Denver, Colo.

**H. W. Rasor**, general foreman of the Air Line Junction (Ohio) engine house of the New York Central, has been appointed assistant to general superintendent of motive power, with headquarters at New York.

**L. W. Shirley**, master mechanic of the Northwestern district of the Union Pacific at Portland, Ore., has been promoted to superintendent of motive power and machinery of that district, with headquarters at Albina, (Portland) Ore., a new position, succeeding to a portion of the duties of **L. L. Hoeffel**, superintendent of motive power and machinery of the Western district, who continues as superintendent of motive power and machinery of the South-Central district, with headquarters as before at Pocatello, Idaho. **J. D. Killian**, assistant master mechanic at Portland, has been promoted to master mechanic of the Oregon and Washington divisions, with headquarters at Albina. **E. M. Tapp**, assistant master mechanic at Salt Lake City, Utah, has been promoted to master mechanic of the newly created Utah division, with the same headquarters.

#### PURCHASES AND STORES

**William M. Barnthouse**, a clerk in the store department of the Kansas City Southern at Shreveport, La., has been pro-

moted to storekeeper of the Southern division, with the same headquarters, succeeding **R. C. Hull**, who died on September 23, 1940.

#### SPECIAL

**Paul W. Adams**, supervisor of loss and damage prevention with jurisdiction also over the police department of the New York, Chicago & St. Louis (Nickel Plate), has been appointed superintendent of property protection, with headquarters as before at Cleveland, Ohio, a change of title.

#### OBITUARY

**Charles N. Bainbridge**, who retired in 1933 as engineer of design of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, died at his home in Lombard, Ill., on July 1.

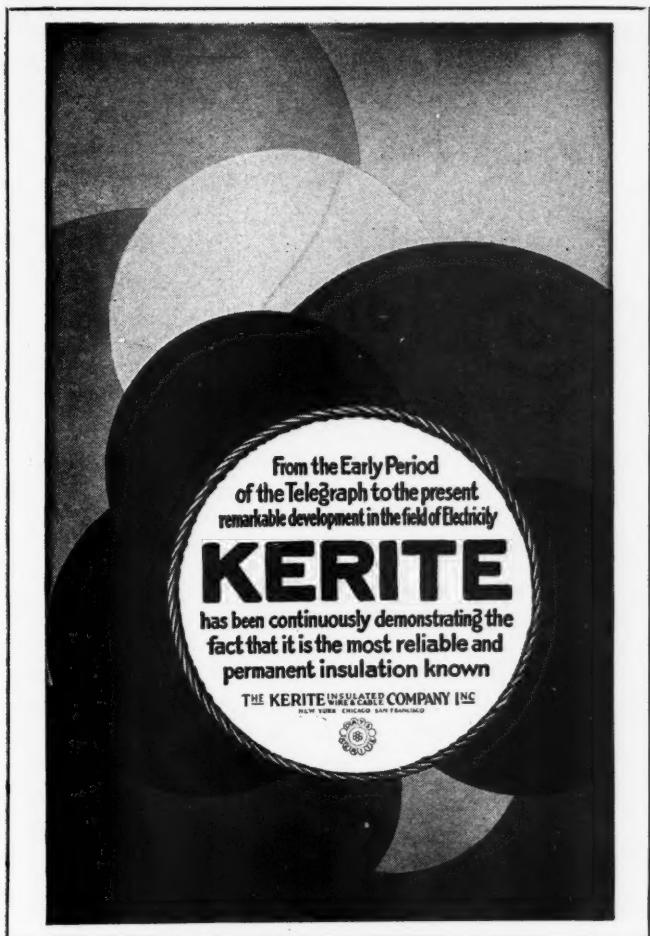
**Fred E. Jones**, assistant freight claim agent for the Southern Pacific Lines in Texas and Louisiana, with headquarters at Houston, Tex., died at a hospital in that city on July 10, following an illness of several weeks.

**M. Carter Hall**, general solicitor of the Chesapeake & Ohio, with headquarters at Richmond, Va., and Washington, D. C., died on August 11 at Clifton Forge, Va., after a long illness. Mr. Hall was born on June 4, 1883, at Fredericksburg, Va., and attended Fredericksburg College and the University of Virginia. He entered railroad service in 1907 as assistant to general counsel of the Atlantic Coast Line, serving in that capacity until 1912, when he became the attorney of the Associated Railways & Steamship Lines and special counsel before the Interstate Commerce Commission. From 1915 to 1920, Mr. Hall engaged in general practice at Fairfax, Va., serving, at the same time, as assistant division counsel of the Southern and counsel for the Chesapeake & Ohio, the Richmond, Fredericksburg & Potomac and the Washington - Virginia Electric railway. From 1929 to 1938 he was general attorney of the Chesapeake & Ohio at Richmond. In 1938 he became general solicitor of the Chesapeake & Ohio, the New York, Chicago & St. Louis and the Pere Marquette.

\* \* \* \*



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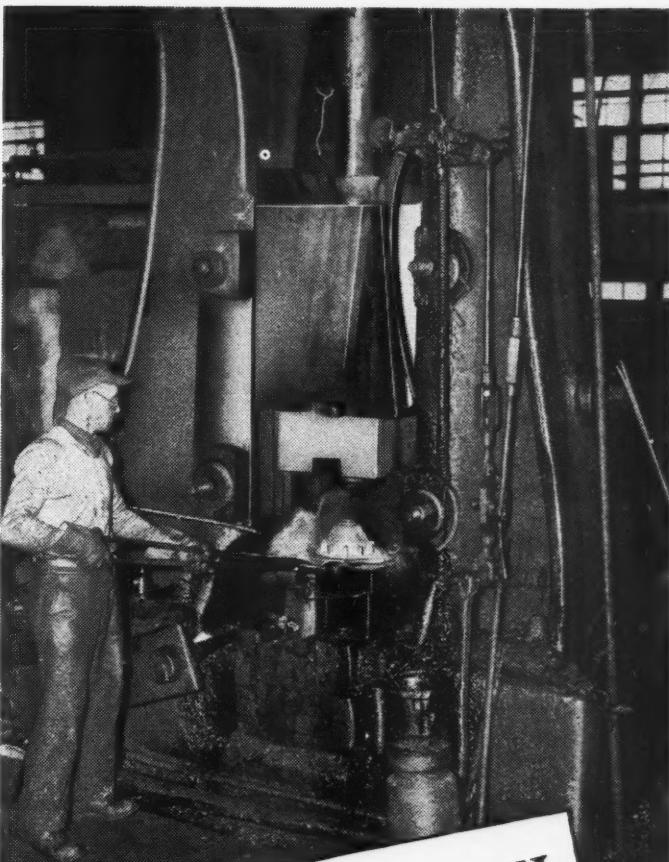
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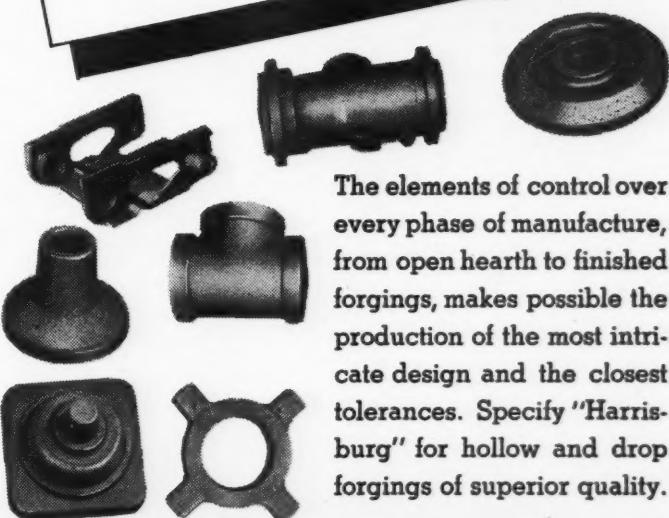
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## Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles				Car-miles		Gross revenue and non-revenue		Ton-miles (thousands)			Number of road locomotives on line		
			Principal and helper		Light	1941	1940	1941	1940	1941	1940	1941	1940	Serviceable	Not stored	Stored
	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940
New England Region:																
Boston & Albany	362	169,647	177,918	12,666	3,857	64.2	230,364	85,725	65	2	19	22.1				
	362	136,033	140,989	9,625	3,043	64.6	177,906	63,933	51	3	32	37.2				
Boston & Maine	1,894	333,253	383,689	34,464	13,250	69.2	748,844	289,960	135	..	35	20.6				
	1,892	280,620	317,975	25,201	9,986	67.7	570,216	212,037	120	..	55	31.4				
N. Y., New Hav. & Hartf. <sup>†</sup>	1,829	441,890	552,776	36,786	16,841	68.2	926,328	355,799	203	1	51	21.4				
	1,841	338,974	421,138	27,880	12,068	64.7	678,578	248,172	179	17	58	24.0				
Great Lakes Region:																
Delaware & Hudson	849	280,982	327,098	38,436	10,838	65.4	699,026	324,354	125	47	72	29.5				
	846	245,657	311,353	33,886	8,519	62.9	546,446	258,000	126	43	72	29.9				
Del., Lack. & Western	983	398,706	457,784	62,588	16,323	70.9	956,173	400,803	142	4	69	32.1				
	983	359,717	405,274	54,177	13,037	66.4	779,449	309,357	142	7	57	27.7				
Erie (incl. Chi. & Erie) <sup>‡</sup>	2,257	806,968	854,683	50,109	36,169	67.2	2,217,141	882,194	246	19	160	37.6				
	2,268	641,027	674,946	40,118	28,394	65.9	1,716,150	650,769	201	42	186	43.4				
Grand Trunk Western	1,023	292,515	295,361	2,130	9,212	63.7	561,346	197,723	75	..	18	19.4				
	1,023	246,041	247,584	1,393	7,281	61.4	451,296	156,566	72	4	25	24.8				
Lehigh Valley	1,252	381,101	418,456	65,879	16,396	68.8	1,017,478	448,221	126	7	50	27.3				
	1,260	333,200	367,198	51,892	12,911	64.9	817,545	341,910	139	..	92	39.8				
New York Central	10,521	3,181,234	3,384,150	219,493	117,777	62.0	7,849,168	3,344,672	1,016	68	304	21.9				
	10,465	2,674,726	2,838,674	174,290	90,159	58.7	6,181,477	2,548,687	868	159	339	24.8				
N. Y., Chicago & St. Louis	1,672	609,130	620,494	8,127	23,561	66.8	1,414,183	545,338	136	4	23	14.1				
	1,672	509,912	516,552	6,447	18,111	62.3	1,103,758	393,129	124	15	27	16.3				
Pere Marquette	2,068	404,561	419,569	10,566	12,510	65.4	775,007	303,542	128	1	24	15.7				
	2,080	362,651	369,204	7,350	9,619	59.3	625,428	222,537	114	2	41	26.1				
Pittsburgh & Lake Erie	233	100,826	104,702	79	4,378	65.1	370,458	217,968	42	..	17	28.8				
	233	76,966	79,393	20	3,181	61.2	278,290	160,404	33	19	17	24.6				
Wabash*	2,397	647,896	660,295	13,055	22,589	68.2	1,322,232	491,188	144	8	110	42.0				
	2,397	547,611	557,476	12,044	17,280	62.9	1,037,524	350,058	138	17	113	42.2				
Central Eastern Region:																
Baltimore & Ohio	6,245	1,919,158	2,399,094	251,585	65,088	64.8	4,452,916	2,085,207	788	103	253	22.1				
	6,261	1,514,915	1,884,482	201,957	48,789	61.6	3,416,117	1,547,432	662	108	431	35.9				
Central of New Jersey†	680	198,185	226,053	45,540	7,085	70.4	437,533	214,314	87	8	51	34.9				
	679	166,729	188,575	33,786	5,277	60.6	368,898	173,314	75	7	72	46.8				
Chicago & Eastern Illinois	925	187,341	188,462	3,162	5,294	69.3	319,513	134,110	58	3	30	33.0				
	925	169,900	170,115	3,052	4,172	64.1	255,549	101,690	55	4	31	34.4				
Elgin, Joliet & Eastern	390	127,868	129,412	1,239	3,573	61.4	273,846	138,063	65	..	11	14.5				
	390	93,514	94,851	1,119	2,315	59.1	175,503	83,748	47	1	29	37.7				
Long Island	375	28,903	30,264	18,840	314	53.0	23,603	9,330	34	8	6	12.5				
	375	26,143	27,352	17,172	278	51.2	21,394	8,241	32	7	9	18.8				
Pennsylvania System	9,960	3,908,649	4,668,928	567,569	155,192	64.2	10,630,872	4,928,198	1,619	22	500	23.4				
	9,983	2,908,783	3,538,345	408,487	112,075	60.3	7,839,940	3,448,218	1,230	248	758	33.9				
Reading	1,430	491,096	548,194	69,978	15,906	67.9	1,069,300	541,436	260	11	79	22.6				
	1,442	403,686	446,874	51,293	11,983	61.4	863,121	412,648	209	15	150	40.1				
Pocahontas Region:																
Chesapeake & Ohio	3,053	969,357	1,025,189	48,569	48,481	60.9	3,957,333	2,216,122	391	42	67	13.4				
	3,044	932,099	985,676	45,182	44,019	55.6	3,761,879	2,052,393	384	46	85	16.5				
Norfolk & Western	2,169	774,074	814,469	47,681	36,503	59.4	3,015,980	1,613,770	310	20	20	5.7				
	2,169	659,878	688,771	36,754	30,271	56.8	2,579,271	1,368,700	278	46	32	9.0				
Southern Region:																
Atlantic Coast Line	5,071	828,072	850,824	12,135	19,496	60.4	1,222,050	449,823	312	6	39	10.9				
	5,075	678,188	683,528	10,051	14,864	60.2	906,850	308,936	264	22	42	12.8				
Central of Georgia†	1,831	310,932	313,953	4,873	7,258	73.4	410,900	170,601	94	..	23	19.7				
	1,831	274,381	276,278	4,309	5,928	70.6	340,854	134,133	94	..	26	21.7				
Illinois Central (incl. Y. & M. V.)	6,521	1,451,115	1,456,019	26,313	45,288	64.5	2,877,334	1,214,504	525	14	175	24.5				
	6,557	1,303,459	1,308,769	24,647	37,082	60.5	2,404,388	957,183	568	65	177	21.9				
Louisville & Nashville	4,856	1,447,203	1,565,247	36,900	36,728	61.9	2,548,863	1,172,883	390	14	57	12.4				
	4,862	1,221,256	1,324,357	33,865	31,174	59.1	2,234,515	1,023,468	372	24	97	19.7				
Seaboard Air Line*	4,298	775,317	816,220	6,104	19,641	62.2	1,222,722	456,007	260	..	42	13.9				
	4,301	614,850	641,544	4,918	15,276	61.9	937,936	331,855	241	22	42	13.8				
Southern	6,521	1,751,480	1,784,283	26,698	41,672	67.7	2,461,924	1,029,197	534	2	113	17.4				
	6,548	1,400,484	1,421,888	21,040	31,537	65.5	1,868,601	746,620	488	..	152	23.8				
Northwestern Region:																
Chicago & North Western†	8,316	932,297	962,146	18,885	31,010	65.6	1,913,867	821,765	303	31	232	41.0				
	8,324	801,409	829,383	15,934	24,592	62.6	1,562,719	577,912	278	76	259	42.3				
Chicago Great Western	1,447	273,351	276,904	5,632	8,712	64.3	535,749	196,358	71	4	10	11.8				
	1,447	245,683	246,795	6,458	7,227	63.7	444,983	161,117	66	2	17	20.0				
Chi., Milw., St. P. & Pac.†	10,847	1,392,747	1,457,359	58,050	44,1											

## Items for the Month of May 1941, Compared with May 1940

Region, road, and year	Number of freight cars on line			Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive miles per day
	Home	Foreign	Total								
New England Region:											
Boston & Albany	1941	757	5,646	6,403	1.0	23,487	1,375	512	22.2	435	30.5
	1940	923	4,591	5,514	2.1	21,614	1,313	472	21.0	388	28.6
Boston & Maine	1941	3,814	9,695	13,509	2.7	31,249	2,253	872	21.9	694	45.8
	1940	5,274	7,008	12,282	6.0	28,812	2,038	758	21.2	558	38.8
N. Y., New Hav. & Hartf. <sup>†</sup>	1941	5,038	17,114	22,152	2.8	30,633	2,128	817	21.1	535	37.2
	1940	7,073	10,846	17,919	3.7	29,723	2,032	743	20.6	435	32.7
Great Lakes Region:											
Delaware & Hudson	1941	6,332	5,129	11,461	4.6	39,760	2,511	1,165	29.9	890	45.5
	1940	8,654	3,463	12,117	3.6	34,206	2,237	1,056	30.3	709	37.2
Del., Lack. & Western	1941	8,059	9,665	17,724	3.3	41,339	2,422	1,015	24.6	757	43.5
	1940	11,327	5,860	17,187	6.8	38,330	2,191	869	23.7	590	37.5
Erie (incl. Chi. & Erie) <sup>†</sup>	1941	11,921	19,919	31,840	2.2	47,394	2,773	1,103	24.4	886	54.1
	1940	15,983	13,234	29,217	3.3	45,970	2,696	1,022	22.9	725	48.0
Grand Trunk Western	1941	3,075	8,315	11,390	7.1	37,855	1,931	680	21.5	586	42.9
	1940	4,025	6,492	10,517	6.7	36,427	1,840	638	21.5	479	36.3
Lehigh Valley	1941	7,797	12,386	20,183	1.2	50,704	2,716	1,196	27.3	725	38.6
	1940	10,195	7,971	18,166	1.7	46,640	2,489	1,041	26.5	632	36.8
New York Central	1941	72,654	69,617	142,271	8.2	42,462	2,486	1,059	28.4	793	45.1
	1940	87,861	53,762	141,623	12.9	39,663	2,327	960	28.3	577	34.8
N. Y., Chicago & St. Louis	1941	4,618	9,582	14,200	2.5	44,603	2,326	897	23.1	1,251	80.9
	1940	6,572	7,482	14,054	3.8	41,041	2,169	772	21.7	902	66.6
Pere Marquette	1941	5,784	9,198	14,982	2.8	33,873	1,926	754	24.3	687	43.2
	1940	8,689	6,367	15,056	3.2	30,001	1,730	616	23.1	458	33.3
Pittsburgh & Lake Erie	1941	8,003	6,604	14,607	11.6	47,507	3,690	2,171	49.8	410	12.7
	1940	13,769	3,655	17,424	23.5	43,991	3,617	2,085	50.4	284	9.2
Wabash*	1941	8,979	12,202	21,181	1.6	42,473	2,065	767	21.7	766	51.6
	1940	12,611	8,151	20,762	7.7	39,711	1,907	643	20.3	543	42.6
Central Eastern Region:											
Baltimore & Ohio	1941	45,103	36,453	81,556	3.3	31,646	2,364	1,107	32.0	818	39.4
	1940	57,681	23,732	81,413	10.5	31,324	2,286	1,036	31.7	607	31.0
Central of New Jersey <sup>†</sup>	1941	5,528	13,659	19,187	3.9	28,441	2,315	1,134	30.2	373	17.5
	1940	9,207	10,980	20,187	22.1	28,963	2,347	1,103	32.8	278	14.0
Chicago & Eastern Illinois	1941	2,905	3,511	6,416	5.9	32,105	1,726	724	25.3	677	38.6
	1940	3,362	2,950	6,312	7.1	29,036	1,507	600	24.4	519	33.2
Elgin, Joliet & Eastern	1941	8,835	8,851	17,686	3.0	18,311	2,198	1,108	38.6	285	12.0
	1940	9,088	4,391	13,479	3.1	18,000	1,923	918	36.2	212	9.9
Long Island	1941	78	3,739	3,817	0.4	5,895	833	329	29.7	81	5.1
	1940	139	2,906	3,045	1.0	5,931	832	321	29.6	79	5.2
Pennsylvania System	1941	163,904	76,177	240,081	10.8	39,512	2,788	1,292	31.8	663	32.5
	1940	194,240	60,674	254,914	15.8	39,730	2,746	1,208	30.8	435	23.4
Reading	1941	19,239	16,732	35,971	9.2	28,397	2,183	1,105	34.0	477	20.7
	1940	23,742	10,720	34,462	18.9	27,853	2,145	1,026	34.4	379	17.9
Pocahontas Region:											
Chesapeake & Ohio	1941	41,080	14,878	55,958	2.0	59,361	4,121	2,308	45.7	1,218	43.8
	1940	46,685	14,375	61,060	2.3	59,439	4,085	2,229	46.6	1,090	42.1
Norfolk & Western	1941	33,133	6,646	39,779	1.6	60,777	3,951	2,114	44.2	1,104	42.0
	1940	37,480	4,736	42,216	4.3	60,355	3,956	2,099	45.2	1,061	41.3
Southern Region:											
Atlantic Coast Line	1941	12,034	10,783	22,817	10.7	26,008	1,482	546	23.1	639	45.8
	1940	14,706	6,960	21,666	16.2	25,109	1,340	457	20.8	456	36.5
Central of Georgia <sup>†</sup>	1941	3,329	4,482	7,811	1.3	26,225	1,328	551	23.5	689	39.9
	1940	4,861	2,323	7,184	2.5	25,076	1,254	494	22.6	587	36.7
Illinois Central (incl. Y. & M. V.)	1941	25,683	19,576	45,259	3.5	33,499	2,002	845	26.8	853	49.4
	1940	32,071	15,200	47,271	2.9	31,716	1,865	743	25.8	659	42.2
Louisville & Nashville	1941	28,284	12,549	40,833	4.3	28,778	1,763	811	31.9	813	41.1
	1940	37,047	10,430	47,477	11.6	29,836	1,834	840	32.8	702	36.2
Seaboard Air Line*	1941	10,298	10,350	20,648	2.2	28,429	1,608	600	23.2	734	50.8
	1940	12,044	5,397	17,441	4.1	27,650	1,544	546	21.7	614	45.7
Southern	1941	21,900	23,926	45,826	6.9	24,149	1,417	593	24.7	720	43.1
	1940	22,957	18,118	41,075	7.3	23,965	1,343	536	23.7	582	37.5
Northwestern Region:											
Chicago & North Western <sup>†</sup>	1941	30,938	27,544	58,482	6.1	31,887	2,131	905	26.5	495	28.5
	1940	35,925	15,969	51,894	11.5	31,024	1,985	734	23.5	366	24.0
Chicago Great Western	1941	1,773	3,931	5,704	2.5	35,990	1,965	720	22.5	1,118	77.0
	1940	2,713	2,902	5,615	1.9	34,222	1,814	657	22.3	954	67.2
Chi., Milw., St. P. & Pac. <sup>†</sup>	1941	37,156	26,050	63,206	1.1	34,436	2,074	847	26.6	635	38.5
	1940	45,196	15,517	60,713	2.9	32,104	1,913	778	26.1	487	29.8
Chi., St. P., Minn. & Omaha	1941	2,009	5,948	7,957	7.5	21,340	1,583	632	24.3	589	35.5
	1940	3,516	5,056	8,572	7.0	20,333	1,472	565	23.7	432	28.1
Great Northern	1941	28,469	10,015	38,484	4.4	44,431	2,771	1,310	34.0	1,061	49.6
	1940	34,197	8,982	43,179	6.6	41,133	2,614	1,177	33.0	724	37.0
Minneapolis, St. P. & St. M. <sup>†</sup>	1941	10,717	5,229	15,946	3.5	27,936	1,666	736	26.8	620	34.3
	1940	12,494	3,392	15,886	4.2	26,027	1,503	623	25.8	494	30.6
Northern Pacific	1941	25,699	6,868	32,567	6.4	32,728	1,785	1,002	26.4	741	39.8
	1940	29,960	5,235	35,195	10.4	36,678	2,176	909	26.2	577	33.8
Central Western Region:											
Alton	1941	1,082	5,792	6,874	5.0	39,686	1,511	618	26.0	672	40.0
	1940	1,560	5,191	6,751	5.6	36,427	1,341	489	23.4	445	31.2
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1941	60,337	19,860	80,197	6.1	39,152	1,979	685	22.7	708	50.7
Chicago, Burl. & Quincy	1940	65,681	10,993	76,674	11.8	38,803	1,887	595	20.9	493	39.7
	1941	23,546	18,887	42,433	3.1	35,016	2,005	851	25.7	790	45.1
Chi., Rock I. & Pac. <sup>†</sup>	1941	28,647	13,971	42,618	6.6	32,830	1,845	717	23.9	551	36.0
	1940	20,300	11,907	32,207	6.9	32,592	1,732	679	24.7	818	52.9
Denver & Rio Gr. Western <sup>†</sup>	1941	10,428	3,155	13,583	3.3	31,349	1,831	800	26.7	589	31.3
	1940	11,812	2,548	14,360	3.9	32,739	1,898	783	26.1	445	25.9
Southern Pac.—Pac. Lines	1941	27,472	32,								

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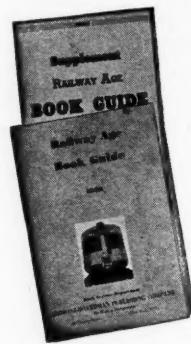
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